A CASE STUDY IN RECREATION GEOGRAPHY: SPATIAL INTERACTION AND CAMPER PERCEPTION

By
DENNIS R. CROWE

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PREFACE

Through the research on this dissertation the author has been made to realize the wealth of ideas and facts which the extensive and varied body of professional geographic literature holds. Preliminary examination provided the author with a healthy confidence in the uniqueness of his study; however, by the time of this writing, over two years later, the author had a much deepened appreciation for the research efforts and thought given by several generations of diligent scholars. The author recognizes that nearly every small concept in the matrix of this work has been revealed as a restatement or application of a concept or fact illustrated or found in another place and time. Surely there is order and surely geographers are succeeding in developing an effective body of geographic theory.

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A CASE STUDY IN RECREATION GEOGRAPHY: SPATIAL INTERACTION AND CAMPER PERCEPTION

By

Dennis R. Crowe

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Major Department: Geography

The Northwest Gulf Coast is Florida's last frontier for planned optimum development for outdoor recreation. In response to this planning need rationale, a field study of peak-season (summer 1970) family campers was undertaken in St. Andrews and Grayton Beach state parks and five private campgrounds within the beach fringe between Panama City and Ft. Walton Beach. A nearly 100 per cent sample of registration receipts was drawn in six campgrounds. Multiple registrations were reduced to over 13,500 party visits. In addition, a supplementary sample of over 500 parties was interviewed.

Utilizing scale shifts from regional to local, a descriptive carto-statistical analysis suggested a variety of closely interrelated conclusions that fit within a proposed synoptic physical-behavioral spatial systems approach for recreation geography. Resource perception and attitudes

toward interchangeability of alternate recreation locations were inventoried as a logical step to understanding functional hierarchies within a regional interaction system of recreation central places.

The nation-wide maximum study tributary area was considered from the standpoint of gross interaction theory. Campground registration data showing county origins of visitor parties were population weighted. Area camping visits were shown to be an hyperbolic function of distance. However, visit rate was a negative function of distance only to a radius of 600 miles from the study area, where curve erratics suggested an application of Wolfe's "distance momentum" theory. Time interaction was introduced to verify this process. However, willingness to drive extra hours (at the margin of driving time) was shown to be more closely aligned with trip period than distance traveled.

A distance minimizing explanation (utilizing predicted nation beach-sheds) for visitor functional tributary area shape was shown to be plausible. However, an augmented hypothesis was forced to include terms for distance indifference zones, uneven friction of distance, and information bias. Perception of beach resource homogeneity was rejected by data showing distinct physical environmental (esthetic, topographic and climatic) preferences and conscious

comparison of resources at alternate locations. When the cultural setting was included in the analysis a broad array of camper resource-specific to nonspecific attitudes were defined. The implication is that between-resource as well as within-resource categories of recreation alternates are perceived by individuals as falling on variably defined recreation satisfaction-potential continuums.

A scale shift to the locality allowed visitor perception and travel to be inventoried relative to specific campground selection from among alternates in the operational study area. Campground selection factors were examined against a background of basic attitudes toward camping (motivations). Setting-specific camper groupings were demonstrated at the several study sites. The implication is that there is need for a variety of campground settings (relative to internal and external development) within a single resource type. Visitor satisfaction only can be maximized by a planned mix of alternate sites. There is no satisfactory average campground development setting.

In addition, it was found that site selection involves considerable perceptual confusion by those who choose a site for reasons of private or public management preference. Last, consideration was given the role of campground fees in site selection. A considerable indifference to fees was

found, indicating that only at extreme levels are fees influential in the campground selection process. In addition, the impact of maximum fee levels on camping participation was inventoried.

CHAPTER I

OUTDOOR RECREATION RESEARCH SETTING

Introduction

Within outdoor recreation and particularly the field of recreation geography there exist a number of problems and unanswered questions. This study addresses some of these from the geographer's perspective.

Study Perspectives

This research was approached primarily from the viewpoint of SOCIAL or BEHAVIORAL GEOGRAPHY and thus is people oriented. Basic concern is for the way individuals and groups of individuals adjust to and interact with the spatial variables of land, particularly those portions developed to produce or perceived as inherently offering outdoor recreation potential, while involved in the process of attempting to find fulfillment or actuation of felt human need or desire, or more generally, our society's pursuit of outdoor recreation.

Elements of LAND USE AND RESOURCE GEOGRAPHY have necessarily been incorporated into this inquiry, particularly

as regards recreation resource distribution and physical character in association with individual selection and use of these resources. Geography's SPATIAL INTERACTION theme has been particularly emphasized within the context of people movement between points. Recreation travel routing and flow in terms of gross movement, considering time-distance factors relative to propensity to travel between origins and recreation resource areas, and within-resource-area movement are the dominant interaction processes considered.

In association with processes of area and site selection and the individual and group views of alternative places, resource opportunity and interaction costs and benefits were approached from the vantage of the geography of ENVIRONMENTAL PERCEPTION. Perception of resource opportunity, for example, was approached in subjective terms of quality and value, with value considered by its surrogate site-potential or recreation-satisfaction-potential, which must be viewed against a backdrop of human need factors such as motivations for outdoor recreation (camping specifically) and a nature-social environmental contrasting paradigm of outdoor recreation. Also such considerations as preferences for level of development, seclusion, privacy, and recreation activities are considered. Attitudes toward alternate resource bases

are also examined. For example, coastal beaches are contrasted with mountains, lakes and reservoirs, forests, and cities.

Perhaps most significant are the APPLIED ASPECTS. Area and site selection processes were studied to provide relevance to the planning and need-oriented, optimum resource allocation objectives of public recreation. Specifically, perspectives are gained on public-private resource mix factors, fee willingness and elasticity of camping, and area-potential oriented generation of planning base data.

Purpose and Objectives of Study

The over-riding purpose of this study is to add to the body of knowledge concerning outdoor recreation resources and to move toward a better understanding of recreation and the use of leisure time. The particular emphasis is on the understanding of spatially interacting factors associated with recreation use of land and water resources, or the expansion of knowledge of recreation geography.

A more specific purpose is to shed light on essentially basic interaction variates and processes and their manifestations as can be observed in a limited sampling of campers visiting a beach resource area. The study is concerned with the 1970 summer, peak season camping use of Grayton Beach

and St. Andrews state parks and certain associated auxilliary private camping developments in the greater Panama City, Florida coastal resort area with the following objectives being considered:

1. To describe spatial interaction between this recreation complex and its visitor tributary area for the specific recreation function of family camping, i.e., to ascertain the spatial distribution of camping visitor trip origins and to describe and seek explanations of some regularities and irregularities associated with this distribution and its underlying travel process and location. (Major objective)

2. To inventory and descriptively explore visitor concepts of resource interchangeability and resource preferences, and attitudes and perceptions of site utility, or recreation satisfaction potential, as these elements affect selection and choice of this recreation resource area or complex and a specific camping site within the area from among alternative regional resource areas and other camping locations within this area. (Major objective)

3. To generate background information for public campground planning and policy development (with an ultimate goal of stimulating discussion which could lead to an evolution of public recreation policy, by posing questions and a few provoking alternatives to present policy regarding recreation land resource use and allocation of public benefits). (Minor objective)

4. To move toward a conceptual and theoretical focus in recreation geography by investigating analagous conditions between topics and methods applicable to recreation geography in both the more intensively studied, traditional subfields, as well as in newer more peripheral areas of geographic analysis. (Minor objective)

Objectives one through three will be treated by statement and analysis of general and specific hypotheses to be tested by description of collected survey data and field observation of status quo, by assumed verification by analogy, and by comparison for continuity with existing empirical evidence. The fourth objective is essentially a logical construction based on an organization and application of geographic and other literature to the recreation geography problem of need for organization concepts and a research focus.

Essential to any research is an understanding of the pertinent background or setting which gives meaning and structure to the work at hand. Little research, even that involving the purest of science, is without a social or conceptual relevancy or alignment with past and present thought. This chapter and the next two briefly demonstrate the social, methodological, and subject matter relevance of this enquiry, which, while framed within a microstudy format with regional implications, examines human perceptual responses to outdoor recreation resources as components in a site selection and spatial interaction process.

Outdoor Recreation Research--Social Setting

It is not the intent of this introduction to review, critique, or even summarize the thousands of pages of position papers, surveys, government documents, and other reports that describe and document the needs and propensities of people to participate in the various forms of outdoor recreation. Too many have dwelled too long on this now obvious feature of our modern social landscape. The timeliness of outdoor recreation research is clear to those who will examine it against the backdrop of today's society, with its changing needs, desires, and demands.

Participation Trends

The post-war United States has witnessed many changes in the way people live. Population growth coupled with internal migration and urbanization has produced an American view which is largely of the city. Changes in available leisure time and gains in disposable income have provided an ability for many, but not all, Americans to consume or participate in a varied array of essentially luxury products and activities, including the means to enjoy an almost infinite list of outdoor and other recreation pursuits. In addition, an improved transportation net and vehicles have

greatly expanded travel accessibility and feasibility. The last two decades have, as a result, produced an unforeseen trend toward recreation participation and travel, which apparently, according to some prognosticators, cycles and self perpetuates into constantly greater expansion. Only a presently unknown critical factor will limit this upward trend.

Increased use pressures and crowding of facilities on the existing limited outdoor recreation resource base has fostered government attention and resulted in expanded development of facilities and increased acquisition of lands for public outdoor recreation. This expansion has been made increasingly more difficult in the face of increased costs as more demands have been made on the static land supply and as land use competition has increased. The private outdoor recreation sector, though perhaps slower to start, has also been caught up in a similar development and growth trend.

Government Impetus for Research

Since about 1950 there has been a significant incentive for the acquisition and development of land for public outdoor recreation activities. The Outdoor Recreation Resources Review Commission recommended in its 1962 report to the President and the Congress that a Bureau of Outdoor

Recreation (BOR) be established.[1] This would, among other things, coordinate planning of the nation's system of outdoor recreation areas. In 1964 the federal Land and Water Conservation Fund was established, under administration by the BOR, which authorized 50-50 federal-state matching of funds for state and local recreation land acquisition and development programs.[2] A condition of eligibility for participation in federal funding through requesting these grants was an acceptance by the BOR of a suitable state master recreation plan.[3] The need for public recreation land acquisition and development brought a rush by states and municipalities to formulate master plans. Attempts to provide such comprehensive planning brought to light the inadequacies of planning techniques and the small established body of fact available as a basis for sound planning. Today, planning is still inadequate.

Study Rationale--Planning Needs

One underlying purpose of this study is to shed some additional light on the interwoven intricacies of outdoor recreation phenomena in hope that some new thoughts and facts might contribute to the understanding essential for a more optimum solution for the present outdoor recreation dilemma. Accordingly, there are some elemental assumptions

upon which rest the rationality of this research:

(1) There is a real need for efficient planning, allocation, and management to meet outdoor recreation demands within a framework of limited land, money, and other resources.

(2) Planning efficiency can only be grounded on fundamental knowledge of people's needs, wants and propensities.

(3) Our present level of knowledge of such basic things is inadequate--hence, arises the core problem which may be defined as the need for outdoor recreation research.

Spatial Viewpoint of Report

Recreation planners and other use-demand predictors have run around countless times in attempts to use broad prediction rules and national or regionally based cross-section data on recreation participation. Many planning efforts have been built around predictions based on such broadly derived population participation ratios. It is believed that time will show that some past and present state planning for outdoor recreation development has been based on invalid assumptions.

Metropolitan areas have such variation in internal and surrounding transportation facilities, topography, population density and socioeconomic composition and relative locations of complementary and competitive recreation sites, that there is always a need for local empirical studies upon

which to base need inventory and planning efforts. Market areas simply cannot be judged or evaluated in the terms of market study results based outside the region of interest.

At least one other recreation geographer has recognized this concept. Robert Lucas, a recreation researcher for the U. S. Forest Service, has based his agreement on numerous studies in the nation's forest resource areas. He concludes that the results of broad general surveys can't safely be applied to the locality any more than results of regional studies can be applied in other regions.[4] Some land economists also stress the need for local and subregional-studies.[5]

Geographers McCarty, Hook and Knos recognized this reality and framed their opinion as a scale problem:

> Every change in scale will bring about the statement of a new problem, and there is no basis for assuming that associations existing at one scale will also exist at another.[6]

Clearly then, the significance of a study is not couched entirely in the scale of observation. Work is needed at all scales of examination.

Partly in response to the belief that there has been inadequate use of spatial variables in outdoor recreation research, this research effort has primarily concentrated on this aspect. The particular viewpoint taken in this

research is one of a variable scale of observation and analysis. Hence, the spatial methodological approach of this study is at times regional, subregional, or intensely local through shifts in the scale of emphasis. At all scales, however, the emphasis is upon factors associated with movements of recreationists between places or upon the actual observable phenomena of spatial interaction itself. (It should be noted, however, that not all factors associated with recreation movement can be observed.)

The advantages over the isolated bits and pieces approach resulting from nonrelated studies at various scales of observation are obvious. Perhaps the paramount advantage of this approach is the ability to trace behavior, attitudes, and preference within defined topical limits for a single body of recreationists through a nearly holistic recreation experience.

Research in Recreation Geography

Despite the fact that topics involving outdoor recreation resources have not been strongly pursued by geographers, the scope of recreation geography has expanded considerably since the comments written in 1954 by McMurry and Davis on the then little known subfield within geography. It is

significant to note that this historic recognition of the existence of the infant subdivision of geography, by James and Jones, placed it specifically under the heading of economic geography, though McMurry and Davis were cautious in predicting its eventual emergence as a topical field distinct from any other.[7]

Between the time of K. C. McMurry's[8] landmark writing on Michigan recreation land use and its potentials in 1930 and his review of recreation geography with Davis in 1954, it is significant to note that only a few topics had been broached. Tourist travel habits, recreation land use, and the resort-tourist business were then the primary topics of examination. However, Mitchell reports the existence of ten more or less distinct topics or types of writing in the geographic recreation literature by 1967, which he suggests is an indication of the diversity and uncohesiveness of topical approach in the field.[9] But in any case it demonstrates the relative growth of attention to the myriad of phenomena within recreation geography.

McMurry and Davis' cautious prediction that ultimately recreation geography would become separate from economic geography was well formed because today recreation geography is recognized in many professional quarters as a separate entity, though it still has overlaps with several subfields

within geography. Clyde Browning sees geography itself as a young and rapidly developing discipline with a current growth phase characterized by a proliferation of diverse research topics.[10] His 1971 review of U. S. and Canadian dissertations showed that recreation and political geography are the two newest discreet subject matter subdivisions of the field with roots beginning since 1945. Browning showed that fewer dissertations have been written in recreation topics than any other major grouping with exception of those dealing with the environmental determinism theme.

Recreation geography currently suffers from a general lack of central purpose, a unifying conceptual framework of theory and method, and a research focus. Mitchell's assumption that recreation geography's diversity of topical examination is indicative of uncohesiveness may not be correctly based, for it would seem that all topics he listed are essentials for study within the subfield.[11] Furthermore, as will be demonstrated, there appear to be real trends toward a topical evolution and eventual cohesiveness. The present uncohesiveness lies in the lack of a suitable central concept that would formally tie the various topical investigations into a potential general theory building and growth cycling holistic structure. For this infant subfield to thrive, an internal reevaluation of past directions and

relevant growth needs must be undertaken.

Movements Toward a Central Concept

Past directions

Earliest writing by American geographers on recreation allied topics was primarily incidental to land use studies or were minor parts of reports on land surveys. Among the earliest writings were two papers on recreation aspects of the Michigan Land Economic Survey (begun in 1922) by Barnes in 1929, and McMurry in 1930.[12] Prior to about 1930 apparently recreation uses of land were overlooked by geographers. Consequently, witness of the acute perception of such men as Atwood and Platt is given by their 1927 and 1928 predictions and observations of the roles of recreation then beginning in their separate study areas of the United States.[13]

Table 1 demonstrates the major topical trends in recreation studies published in selected major journals in the United States and Canada. Though a complete inventory of geography theses and dissertations on recreation topics was made, since it was impossible to read them all to verify the focus which is often misleadingly indicated by title, only the journals were read for title-independent topical classification for trend evidence. The median publication date for articles within each topical class is shown for comparison.

TABLE 1

TRENDS IN TOPICAL APPROACHES TO RECREATION STUDIES IN AMERICAN GEOGRAPHY

Topic	Median Year of Publication*
Physical resource base studies	
Land inventory and development potentials (Area/site land planning orientation)	1937
Resources in association with existing developments	1952
Problems of supply and demand	1963
Historical: sequent human occupance and land use	1945
Recreation regionalization: delineation and description of recreation areas and associated land use	1946
Economic studies: regional-local descriptions of recreation industries	
Setting stress on historical and environmental origins	1948
Stress on present and potentials	1957
Conceptual and empirical economic impact studies	1967
Urban oriented studies	
Urban recreation land use	1962
Amenity associated population migration to and beyond the urban fringe	1947
Urban recreation hinterlands	1957
Resorts	1955
Miscellaneous	1962

TABLE 1 (Continued)

Topic	Median Year of Publication*
Marketing-site use factor studies	1963
Problems in management and public resource allocation	1964
Recreation planning	1965
Perception studies	1965
Travel interaction	
Role of access and travel in area development	1940
Amenity migration	1956
Urban day trip hinterland	1956
Urban seasonal migration hinterlands	1963
International travel trends	1966
Distance effect studies	1965
Theory and model building	1967
Philosophy and method of recreation geography	
Status	1967
Focus	1966
Methods	1967

*Sample of all volumes of most major United States and Canadian geographical journals.

It will be seen that except for a more recent enquiry into the problems of supply relative to demand for use of outdoor recreation resources and land competition, there was an early thrust in studies aligned with recreation land inventory, landscape character associated with development of parks, resorts and other recreation areas, and historical sequent occupance and land use studies. The latter had a dual focus on the processes of an area's land use change culminating in a recreation phase, and the evolution of a recreation industry in time, not particularly in space. In addition a few early descriptive studies delineated specific recreation areas and described general recreation associated land use.

Also of an early origin, but extending clearly to the present, are economic studies. Within this general category of research efforts has apparently been an evolution of approach to recreation industry description. Progressive ten-year intervals mark the mid-point of three phases from historical resource-oriented studies to present-day comments on regional development theory. There is considerable variation between the various articles in the extent that the area or industry economics, use status, and associated land use are described.

Urban-oriented studies as a group are more recent in origin. With the exception of a few papers with clear amenity emphasis on population shifts to areas outside of the city and the long-standing emphasis on descriptions of resort towns, urban studies are recent.

Recent literature contains a group of recreation topics that have been more or less oriented toward recreation problems and generation of information useful in planning, locating, and managing recreation areas that meet public needs. Out of this emphasis has come a few innovative papers on site use factors, perception, and other behavioral aspects of outdoor recreation.

Clearly aligned with modern trends in geography as a whole has been the recent attention to recreation travel with an interaction theory focus. A number of early writers described the roles that new roads, rails, and increased physical access in general had on development of recreation in their study areas. In addition a few urban travel-focused articles centered on the decade of the 1950s; however, primarily during the last decade a trend toward investigation of central place theory, system-gravity-regression model building and distance travel functions has been noted.

Finally, the most recent development has been a philosophical and methodological consideration of recreation geography itself as a subfield of geography. As interested geographers and newly equipped recreation geography specialists became aware of problems there has evolved a conversation on status, research focus, and methods in this recent subfield of geography.

Urban focus

From outside geography, among various academically based recreation researchers and others involved in public recreation policy formulation, has come recently repeated emphasis upon the increasing need for attention to the recreation needs of a constantly growing urban-oriented and stressed world. Clawson, for example, points out that most people now live in or near cities and that most of their nonworking time is spent in their urban or suburban environments.[14] He continues, noting that the near future should find the nation dominated by an urban, high income, "mass-leisure society" which will require that "...more thought must be given to the management of the immediate urban physical environment" including specific urban recreation environments.[15] After all, "...the demand...is concentrated where people are--in metropolitan areas."[16]

The Bureau of Outdoor Recreation recognizes the Clawson view and believes that all recreation-providing governmental agencies must "...become more people and urban oriented in their programs."[17] For example, BOR employee, Warren J. Kelvie, speaking before the 1970 Denver meeting of the Western Resources Conference titled his address "Urban Recreation Demands--The Recreation Imperative."[18] Kelvie quoted a portion of President Nixon's Environmental Message to the Congress in which Nixon emphasized the need for focusing on urban recreation needs. The President proposed "...increased emphasis on locations that can be easily reached by the people in crowded urban areas."[19] A parallel point, inherent in such an urban recreation emphasis proposal, is the factor of transportation or movement which is implied by the phrase "...locations that can be easily reached...." An earlier report to the President and to the Congress reinforced this essential aspect of people movement which is basic to outdoor recreation phenomena stating that "outdoor recreation of 'public' importance, that is, which has an impact upon resources available to the public, takes place away from the residence of the person.... To engage in such activities requires a 'trip' or movement, usually by automobile, to a place to engage in the activity ..."[20]

Nongeographers have not monopolized this urban viewpoint, however, for several geographers have recently proposed a shift from emphasis on nonurban recreation resources to those concerned primarily with urban needs. James R. Anderson, for example, has stressed the need for placing attention on the urban recreation focus in dealings with the current problem of providing public outdoor recreation opportunity that is equitably distributed with regard to population need.[21] Anderson agrees with the land economist Clawson when he notes that most recreation land is "resource based" and consequently located where the environment made possible a "naturally" developed recreation area. According to Anderson, the solution calls for more "user-oriented" sites located with regard to population distribution and particularly with regard to the needs of a few large urban areas. He further points out that such an attempt to "optimize recreation development of land and water resources" involves some of the most difficult competition with other optional land uses.[22] Obviously a very real need for recreation research exists for aiding in maximum efficiency of such land acquisition and development efforts.

Lisle Mitchell, citing the arguments of Clawson and other land economists as well as federal review commission results which point out the paucity of information being

gathered on urban recreation processes and the tremendous need now and predicted for the future for recreation in the urban scene, would have geographers restrict their attention to an almost exclusive focus on urban recreation.[23]

Kevin Kearns, in an article on the characteristics and origin of city parks, reinforces Mitchell's view by claiming that the urban environment creates personal needs for escape to nature for a refurbishment of some inner man.[24] Cultural and urban geographers, according to Kearns, have a rightful claim to study of the domain of urban recreation and suggests a research focus on the "...role of natural park grounds in man's adjustment to his artificial urban milieu."[25] It should be noted that Kearn's "natural park grounds" may be located in both urban and nonurban areas and still be approached with an urban need focus.

Others, maintaining a long-standing recreation geography topical attention, propose that a research focus in recreation geography should be centered on specialized, unique urban recreation forms, the resort towns where recreation is dominant. Stansfield, for example, would have recreation geography shift emphasis on rural outdoor recreation to "research inquiring into the economic and social nature of, and spatial organization of, recreation within the urban milieu...," particularly as pertains to the evolution of the

morphology and economic base of resort communities.[26]

Another advocate of urban attention who takes a similarly restricted view of a desirable recreation research focus is Burley.[27] Basing his argument on an expansion of potential leisure time (non-working time), Burley proposes that more time is spent in urban "sport" than in tourist travel or vacations. He also attaches a supposition that home recreation dollar expenditures are greater than those made on an extended trip. Therefore, he concludes that tourism and allied activities are not as important as urban "home-based leisure" and specifically "sport." Concurring with Kearns, he ascribes a considerable value to be gained by cultural geography from potential conceptual spin-off from a sport focus in recreation geography. Burley's proposed urban "sport" research scheme is five-fold, involving: "economic aspects," "social aspects," "cultural origins," "physical conditions," and "urban land use." Though of importance, Burley's proposal is hardly suited to a primary research focus. Mitchell, in his proposal, correctly recognized the secondary nature of urban outdoor games and sports, and he presented them as an activity subsystem to his more comprehensive general urban focus.[28] Here also would be the specific sport focus proposed by Shaw.[29]

Undeniably, much outdoor recreation is urban by fact of site selected by the individual for specific activity participation. However, as was brought out in caution to Kelvie's and Kearns' remarks,[30] not only is there a more basic element of people movement inherent in most forms of outdoor recreation activity, but an urban recreation focus must also recognize the needs satisfied only by movements to an urban fringe or nonurban environment. William Colburn, a geographer-planner in charge of Michigan's continuing state outdoor recreation plan, also emphasized the need for attention to urban recreation needs in a paper presented to the 1969 National Congress for Parks and Recreation.[31] But, quite perceptively Colburn's emphasis on urban planning-research needs was direct in pointing out that "...recreation resources which are not in the cities are for the people of the city."[32] His point was one perhaps often overlooked or not clearly understood by proponents of an urban rather than rural focus on research in outdoor recreation; that it is the urbanite who uses the outlying facility. Therefore, a study of rural recreation participation is often a study of urban-based recreation need.

(Note that much urban-oriented work in recreation geography has been done. A review of this literature is outside the scope of this discussion; however, Appendix I

presents an outline of such titles as are readily available in the literature with one possible urban spatial-topical organization.)

Spatial interaction focus

Other geographers, recognizing the diversity of subjects in studies by recreation specialists and seeking a broader unity of the field, are not satisfied with a purely urban approach. For example, Mercer, in a reply to Mitchell's suggested urban research focus, does not deny the present and probable future importance of urban-oriented recreation studies, but asks Mitchell and other geographers the following pertinent question:

> In order to wed the diverse aspects of recreation into a coherent whole is not some focus required that will integrate urban and rural recreation, perception and land-use and resort studies into an integrated subject that is recognizable as recreational geography?[33]

Mercer and others, who are perhaps more aligned with a systemic view, see clearly the thread of movement in nearly all aspects of recreation study and tend to approach recreation studies from the vantage point of analysis of component linkages or the integrative factors associated with recreation activity. Zierer, speaking on recreation and tourism in the West, saw a geographical focus in recreational

travel.[34] More recently, based on less intuition, the time-experienced transportation-recreation geographer Roy Wolfe contrived the recreation geography research focus to be a matter of recreational travel. Says Wolfe:

> I am prepared to defend the thesis that in present patterns of recreational activity a central position for mobility is obligatory. Here are the people; there are the recreational resources; they must be brought together; the people must move to the resources.[35]

That some geographers should propose a focus on the travel element of outdoor recreation is not surprising for there is a long-standing study of interstate tourism that is based in state governmental offices, chambers of commerce, development commissions, and federal and state bureaus and departments of roads and transportation. This recreation economics oriented travel has since the 1930s[36] run parallel to recreation land use and land economics studied by geographers, and continues to thrive today, though now found in three different camps of orientation: state chamber of commerce and development type groups; university departments of marketing, business economics, and agricultural economics; and state departments of transportation. As originally, these studies are oriented toward tourist origins and flows, travel business shares

and impact, and transportation planning data.[37] Geographers could hardly exist without some influence by this body of literature.

Of course, within geography, transportation and urban specialists have dealt with travel studies also, though not noticeably on the topic of interstate tourist travel. Most recent travel studies done in geography have concentrated on urban migration or daily movement in and around urban areas. A readily available example of a comprehensive urban travel study is the Chicago Area Transportation Study which has been discussed by Berry and Horton in their chapter on urban movement.[38] A vast literature of movement studies has been built in the geographic study of location theory and travel behavior (These will be reviewed later), and form a logical springboard for geographical study of recreation movement.

Longstanding travel study habits aside, the high impact Outdoor Recreation Resources Review Commission also pointed to the importance of travel within outdoor recreation and made a logical basis for geographers to enter the realm of recreation travel study. Several studies directly involved transportation factors. Where not stressed in the reports, often travel was a factor clearly legible between

the lines of discussion.[39] Predictions of recreation-associated distances traveled by persons at least 12 years old were made for the 40-year span between 1960 and 2000. Estimated travel increases may be as high as 270 per cent over the 1960 base figures.[40]

Therefore, as stated by Wolfe and repeated by Richards, the "essential focus" of outdoor recreation is on the location of the masses, the urban complexes and the access link between these origins and recreation destinations.[41] Mercer, later discussing a geography of leisure, agreed with Richards that the geographer should deal with the "...spatial distribution of opportunity, the distance of that population from its recreation areas; and, secondly, the mobility of that population..."[42] He furthermore claimed that "Wolfe's 'New migration' of recreational travel is central to the study of recreation geography."[43] Even recreation geographers in the U.S.S.R. are recognizing the dual focus of urban demand with "recreation migration" or transportation (time-cost accessibility) to the recreation site.[44]

After a thorough familiarization with state park systems in dissertation work,[45] Trotter discussed in 1965 the research

needs of recreation geography.[46] Besides calling for more attention to locality based studies of recreation areas and resort areas, and citing the need for improved techniques of identifying and classifying existing and potential recreation areas, Trotter stressed the need for movement-focused recreation studies. The needs he saw were for information on travel patterns: routes, distances traveled, and the nature of resultant tributary areas around recreation facilities. In addition he called for study of travel pattern variation between types of trips; for example, touring, vacation, weekend, and day trips. Looking to the resource, Trotter saw need for more knowledge concerning variation of the primary tributary areas of different kinds of recreation areas, which he claimed must be approached by methods designed to measure the "attractive power" of individual parks, based on their "outstanding or special features of scenic or historical nature" and their facility base for outdoor recreation activity.[47]

Movement patterns and land use lie at the root of geographical theory according to Nystuen, who adds that "movement or travel behavior is the complement of location, that is, travel behavior is in part determined by arrangement of facilities and in part determines that arrangement."[48] Such a central position for movement is shared by Ullman also.

Ullman's geographical goal is the "codification of relations between objects--occupance units--in earth space," and he sees flows of things and ideas as the key to understanding these relations. Therefore, he proposes a functional definition of geography as "spatial interaction" or a study of movement.[49]

Wolfe's movement or travel migration focus is patterned after Ullman's dynamic interaction concept of geography.[50] Mercer views the relationship between cities and their rural surroundings as a symbiotic interaction,[51] while Campbell clearly agrees with Wolfe in his concept of recreation geography as one group of spatial interaction studies in the large field of geography.[52]

As a capstone to these thoughts it is interesting to look at opinions of nongeographers as they view geographers' roles. In a recent symposium on southern outdoor recreation research needs, agricultural economists Schell and Stern commented that in their opinion "geographers also have an opportunity to participate in interdisciplinary studies dealing with spatial relationships between recreation areas and the centers from which the demand of facilities emanates."[53] If this example is characteristic of opinions of others in agricultural economics then they also see our area of major contribution in recreation studies to be

within the research focus characterized by movement or spatial interaction.

As Christensen, Dower and others have pointed out, the evidence does tend to bear out a parallel growth of auto use, the highway net, and visits to recreation places (tourism).[54] Furthermore, it would appear that if an element or a limited number of recreation elements must be isolated and given particular research focus, recreation geography would benefit most from attention to the integrative or linking element of recreation travel and that this should be the focus at all scales of observation and analysis. In addition, equal attention must be given the points linked by movement, namely, the population centers or demand locations and the intraurban and extraurban recreation resource supply locations. More generally, such a focus would demand a theory building approach based on the study of geography as dynamic spatial interaction.

A Case for Systems Analysis in Recreation Geography

Wolfe, who is perhaps the most outspoken and most often quoted transportation-spatial interaction type of recreation geographer, has referred to the admirable research position of having a holistic view of recreation.[55] Furthermore, in light of what he considers the "...chief virtue attributed

to geography, that of being an integrative discipline," Wolfe cautions that "above all else the geographer must take the synoptic view...."[56] If added to that mandate is the theory-based predictive spatial model-building mandate that Ullman would emphasize in a profitable approach to recreation geography, then recreation geographers would have a firm basis for moving to systems analysis as both method and research focus.

Opinions from within the larger outdoor recreation research field

Some have argued that outdoor recreation research suffers from a lack of direction which can only be resolved by defining a theory of recreation.[57] They claim that only by an integrated approach guided by a central philosophy or theory can the study of outdoor recreation reach satisfactory levels of performance. Twiss, for example, calls attention to the multiplicity of orientations and fronts in recreation research.[58] With specialists in aspects of recreation located in so many fields and disciplines and with a full range of study orientations from academic to problematic, he argues that information sharing, communication, and integration of efforts, results, and concepts is made most difficult. One need only consult the Bureau of Outdoor Recreation's cross-sectional Index of Selected

Outdoor Recreation Literature or its reference catalog Outdoor Recreation Research to see just how true are these statements.[59]

The essential contrast between multidisciplinary and interdisciplinary research has been given further thought by Twiss who concludes that the team methods with conceptual and methodological integration which characterize interdisciplinary research are superior to multidisciplinary research with its many fronts and several unique analytical approaches.[60] He suggests such interdisciplinary outdoor recreation research might well function within an integrative approach that he calls a "systems theory," in which "outdoor recreation would be considered as a system containing many distinct but interdependent parts..., conceptual categories or classes of problems."[61] These problematic parts would generally fall into the realm of more than one discipline. Since Twiss is convinced that suitable levels of integration cannot occur through "synthesis of results of independently conducted unidisciplinary studies...," then it follows that in order to research such a diverse variety of situations logically and comprehensively, a cross-discipline method must be used. Such a concept would necessarily stress "problem solving through a synthesis of scientific thought and methods" and would form a sound

basis for planning.

One of the specific categories of problems within the Twiss "system" is related to "structure," dealing with the organizational pattern of the outdoor recreation system.[62] Furthermore, the "content" of the system would be the resources, resource users and their interactions. This is evidently a resource management oriented "system" and has limitations built in.

More important, is the question of the existence of a single comprehensive system. A special study by the National Academy of Science states that the extent of such a system is itself "a question to be clarified by research."[63] The inclination of the 1969 Academy-directed study committee was to conceptualize recreation as falling into more than one recreation system. For example, the report refers to "urban recreation systems" with the implication that the urban environment forms one grouping among others (perhaps urban and rural systems?).[64] In any case, the Academy report stressed the necessity to recognize the "dynamics of recreational institutions," the essential interdependency of a multiplicity of recreation systems, and the need to approach outdoor recreation from a systems research methodology.[65]

Whether or not the existence of such a major system encompassing all facets of outdoor recreation can be defined

presently or whether work needs to be done within individual problem systems is perhaps pointless at this stage in outdoor recreation research. In any case, work must now take place at a level lower than such an ideal grand model; therefore, if one deals with a system or a major subsystem the association is not important. What is important is that the system apparently envisioned by Twiss and others deals with people, places, and interaction, all of which are within the geographer's domain. In addition, system organizational pattern or structure would seem also to be well suited to geographical analysis, either independently or in multidiscipline groups.

Recommendations of nongeographers

A number of planners, applied researchers, and other recreation practitioners have seen the necessity of a systems approach to their problem solving process. For example, several U. S. Forest Service recreation specialists have pointed to the interconnection of spatial elements in regional outdoor recreation and have discussed associated problems involved in predicting use of individual recreation sites or parks. Change in one park can affect use of other parks. West coast researchers have been particularly impressed by the use of "natural" areas by people who might

well have their recreation needs met in other places. Hendee, for example, has suggested the need for recreation planners to pay more attention to entire system needs that could help avoid crowding of natural areas which causes a dilution of the resources and experience for those specifically seeking the natural environmental experience.[66] LaPage also has mentioned problems associated with recreation system dynamics. Stressing campground selection, he has mentioned "trade-offs" between travel time and on-site time, between travel distance and site resource attractiveness, and among others, possible "trade-offs" between the whole experience and components.[67] In all of these cases system effects are the topic of concern in the gross effect of many individuals evaluating travel and other factors against a number of alternative sites or recreation areas, with any number of combinations of substitutions available to the individual decision maker. In a paper subtitled "A Systems-analysis Approach to Solving Outdoor Recreation Problems," Shafer, a sociologist, has proposed that research be centered around constructing models explaining and predicting relationships in three interrelated subsystems or environments, that focus on natural resources, organization, and social-psychological factors.[68]

Harvey Perloff, known for his perceptive view of urban problems and planning, has also proposed a recreation systems approach, particularly for planning to meet the future urban recreation demand.[69] The land economist and recreation specialist, Clawson, has proposed the use of a systems approach to park planning in which his focus is upon travel costs as a factor proportional to distance and involves demand elasticities in relation to distance and travel cost. Stressing that the amount and kind of use of one area is related to the location and character of other parks, he proposes three interaction sets in his scheme: (1) individual users and individual areas, (2) masses of people and collective park patronage and (3) between parks relations.[70] Clawson also proposes the use of electric power systems as analogous spatial systems for definition of outdoor recreation systems.[71]

For some time the literature has contained references to park systems, and administrators and planners have worked within the confines of such systems. However, it would appear that there has been until recently only a vague recognition of systemic relationships between demand, planning needs, and park use conditions. Hart has produced a pioneer monograph, titled A Systems Approach to Park Planning.[72] His report to the International Union for the Conservation of

Nature and Natural Resources is concerned most with the resources set aside in national park and nature preserves and was based on his studies in a number of newly developing countries.

Recommendations of geographers

A few perceptive recreation geographers have also seized upon the basic advantages of a systems analysis approach to their special geographic research niches. Robert Lucas, for example, has worked for several years on wilderness management and outdoor recreation problems in general for the U. S. Forest Service. On several occasions he has tried to stress the need for viewing specific recreation resource areas as system components affecting and affected by other elements in the system. For example, speaking on contributions of environmental research to policy decisions, he had the following to say about wilderness research:

> To make as full a contribution as possible, the focus of wilderness environmental research should not be limited too closely to the wilderness. The wilderness is part of an interrelated geographical system [emphasis added], where one part affects another. The availability of other wilderness, of alternative areas for some kinds of activities which are possible but not desirable in the wilderness, of adjacent attractions, even the livability of our large cities may be more crucial for the wilderness than what is happening inside its boundaries.[73]

Mercer, another Ullman disciple, speaks of the need and current attempts to formulate "spatial models of recreational activities,"[74] while he too apparently is on the verge of proposing a systems approach. In his last article he mentioned the problem of substitution between elements of a "total resource complex" with system-wide effects of change in any part of an "integrated recreational land use system."[75] Soviet recreation geographers apparently, almost as a group, have come to think of their problems from a system orientation. Recent translations in Soviet Geography all stress this viewpoint and there is evidenced some very clear thinking on research needs within their recognized subsystems.[76]

Relevance of systems analysis to geography

Whether the geographer approaches his profession from a standpoint of regional analysis, areal differentiation, areal organization, distributions and location analysis, spatial analysis, areal process relationships, spatial interaction, human ecology, man-land relationships or some other omitted short hand definition it would seem to matter little regarding the degree that systems analysis could be applied.

Ackerman proposed in 1963 that geographers place their field on the forefront of research in the sciences by, among

other means, utilizing systems analysis in their research.[77] Generalizing for all problematic approaches in science, Ackerman saw four themes of study among which was "the functioning of systems that include multiple numbers of variables..."[78] When the earth and its human occupants are viewed as a complex interacting totality then it must be clear that geographers not only have a natural interest in many scales of spatial systems, but have been performing a type of systems analysis for some time. Borchert, speaking for a number of geographers, recognizes this fact in agreement with Ackerman.[79] However, increased interdisciplinary conversation and mutual reinforcement of separate research fields, also recognized by Borchert as a potential benefit to geography, can best be gained by attention to the formal aspects of a constant terminology and systematic methods, which are also a feature of a complete concept of systems analysis apart from a partial concept of spatial sets of interrelated factors. In other words the concept is dual: a systematic way of looking at, or analyzing problems, and the analysis of a dynamic interrelation between components of an interdependent unit.[80] For Ackerman, the method of geography should be a topical or problematic analysis of various time-space subsystems within the world system.[81] More recently a number of well written information sources have embellished

this viewpoint and have recommended systems analysis to the geographer.[82] Preston James has even offered what may be an idealistic (depending on one's view) vest pocket definition of geography as "spatial systems analysis."[83]

Pioneer systems research in Recreation Geography

It is interesting that apparently no geographer (to the extent of this survey's limits) working within the usual framework of university and college geography departments has produced a strictly system analysis of an outdoor recreation problem. There may be examples of system research that are hidden beneath obscure titles in the long lists of master's theses in recreation geography and there may be as yet unpublished reports on several desks; however, published system work by the professional academia is absent.

Nevertheless, recreation geographers have investigated these analytical approaches and a few reports, superficially indicative of the work being done, are available. Under the influence of demands from a modern state park master planning program, through the efforts of Jack B. Ellis, an electrical engineer, and two geography doctoral students, and with the impetus provided through the Department of Park and Recreation Resources, Michigan State University has become since 1963 a pioneering center in the development of recreation systems

research. The M.S.U. recreation research unit, then under direction of Leslie M. Reid and David M. Milstein--both spatial demand oriented researchers, contracted with the state for a state recreation demand study that precipitated the development by Ellis and others of a computer systems simulation method. Utilizing known data on statewide origins, destinations, and linkages the first test of the method was the basis for Michael Chubb's 1967 geography dissertation.[84] Chubb's specific simulation method, "RECSYS-SYMAP," provided a basis for predicting gross spatial variation and change in recreational boating for 1980 based on model calibration on known 1965 data. The model used the Michigan state highway system as linkages between 74 demand origin nodes (counties) and 72 boating destination counties, with origin participation (demand) values in terms of a population ratio. By varying populations and their socio-economic structure on suspected boating correlated factors a simultaneous solution for "optimum" participation distribution within the state was simulated and spatially-graphically presented by the "SYMAP" computer mapping method. Apparently the success of the "Model T" stage of this method was in mind when Chubb was selected to stay, and was given his present position in charge of the Recreation Research and Planning Unit in M.S.U.'s Department of Park and Recreation Resources.[85]

Another geographer involved in this program was Carlton Van Doren, currently involved with Texas A & M's prestigious outdoor recreation research program. Van Doren worked out a spatial interaction model using a similar statewide system approach and data based on camper travel from counties of origin to Michigan parks; however, his descriptive model was essentially a modified gravity model based on interaction theory.[86]

Other pioneering systems research is being conducted, most of which seems to be Canadian in origin.[87] Gordon Taylor, for example, a geographer who has been Director of the Research and Planning Branch of the Manitoba Department of Tourism and Recreation since 1968, has influenced provincial parks to approach recreation demand estimation and planning from a systems methodology. Since the methods and surveys to be involved in their proposed major inventory of supply and demand are not yet evaluated, or even in some phases completed, the contribution of the Manitoba effort is yet unknown.[88]

An interesting system approach of a different vein has been proposed and illustrated by Walter Isard and other of the Regional Science Institute and Harvard University.[89] Based on the fact that recreation resource systems interact with social, economic and natural systems, Isard demonstrated

the need to study the interrelationships between the various environmental factors in planning recreation areas. Though the approach and the knowledge is not original, it is novel for the orientation of regional scientists who appear usually to deal with purely economic constraints and factors. The discussion points out what they call the relation between the social system and the "ecologic" system and they use as an hypothetical example the input-output relations involving man's recreational use of a somewhat contained ecosystem with focus on a particular food chain.

Synthesis and Study Orientation

From both the standpoint of present needs in outdoor recreation research and from the view of the field of geography there are certain arguments and intuitive assertions that would predispose recreation geography to a systems analysis method and conceptual focus for examination of the spatially interacting factors of recreation as a human activity and as a land resource utilizing process. In addition, pioneer systems analysis efforts have been fruitful and would seem to provide a firm basis for a continuing effort by recreation geographers in this methodology.

The pleas for a research focus and theory of urban recreation would seem one sided when viewed from a system

orientation. Similarly, the proposed transportation focus is lacking. When the urban focus is most broadly examined it is apparent that this implies internal and external attention to the major source locations of recreation demand. Except for the narrowest of internal urban approaches, attention to the demand source location must call for attention to movements toward the periphery of the urban region.

Though ultimately having a unifying affect by leading the research into urban or resource depths of detail in order to understand the basis of movement, such an indirect movement focus may not have a ready identification for the primarily non-movement dealings of a resource specialist or an urban ecologist. A spatial system, however, allows all factors a place within a whole no matter how far removed from direct urban or movement fact.

The realistic model of a spatial system for outdoor recreation would require the geographer's best descriptive ability and interaction understanding. Such a system has not been devised though geographers and others have been describing piecemeal its elements for some while. A good system description would put all the past ideographic studies into perspective and would call for a number of additional studies. Not only would a system approach incorporate past work, but it could incorporate existing

theory and form a logical setting for theoretical expansion.

In summary, a physical-behavioral spatial system approach should give a now nonexistent holistic or synoptic view to the field by providing a coherent and logical integration structure that would incorporate urban and resource subsystems as well as spatial interaction linkage concepts. A systems approach should provide a suitable central concept that would formally tie the various topical investigations of recreation geographers into a potential theory building and growth cycling structure. Consequently, it is toward understanding of behavioral processes of interaction within a system that this research effort is directed.

NOTES

1. Established by Public Law 88-29 (77 Stat. 49; 16 U.S.C. 460-1), May 28, 1963.

2. For a discussion of the Land and Water Conservation Act of 1964 and other allied enabling legislation and federal recreation programs, see Troyt York, "Perspective on Interdisciplinary Research Needs for Public Outdoor Recreation Programs," Appendix I, Outdoor Recreation in the South, ed. Hugh A. Johnson, Publication No. 5, Southern Land Economics Research Committee (Blacksburg, Virginia: Department of Agriculture Economics, Virginia Polytechnic Institute, 1967), p. 24; National Academy of Sciences, Outdoor Recreation Research (Washington, D. C.: National Academy of Sciences, 1969), Appendix B, pp. 74-87.

3. David J. Reed and Leslie M. Reid, An Analysis: Outdoor Recreation on Government Lands in Texas, Agricultural Extension Publication B-1081 (College Station, Texas: Texas A & M University, 1968), p. 5.

4. Robert C. Lucas, "User Evaluation of Campgrounds on Two Michigan National Forests," U. S. Forest Service, Research Paper NC-44 (St. Paul: North Central Forest Experiment Station, 1970), p. 12.

5. See, for example, C. C. Taylor and J. R. Russell, "Outdoor Recreation Development in the South: Problem Areas for Economic Research," in Hugh A. Johnson, ed., Outdoor Recreation Research in the South, Publication No. 5, Southern Land Economics Research Committee (Blacksburg, Virginia: Department of Agricultural Economics, Virginia Polytechnic Institute, 1967), p. 16; Troyt York, "Perspective on Interdisciplinary Research Needs for Public Outdoor Recreation Programs" in same work, pp. 19-32.

6. H. H. McCarty, J. C. Hook, and D. S. Knos, The Measurement of Association in Industrial Geography, Department of Geography Report 1 (Iowa City: University of Iowa Press, 1956), p. 16.

7. K. C. McMurry and Charles M. Davis, "Recreational Geography," American Geography: Inventory and Prospect, eds. P. E. James and C. F. Jones, Association of American Geographers (Syracuse, New York: Syracuse University Press, 1954), p. 252.

8. K. C. McMurry, "The Use of Land for Recreation," Annals, Association of American Geographers, Vol. 20 (1930), pp. 7-20.

9. Mitchell's topics were: economics (tourism, resorts), sites and areas, resource relations, land use and planning, problems, travel and consumption, techniques, recreation geography surveys, regions, and perception. Lisle S. Mitchell, "Recreational Geography: Evolution and Research Needs," Professional Geographer, Vol. 21 (1969), pp. 117-119.

10. Clyde E. Browning, "Trends in the Subject Matter and Locale of Dissertations in Geography: 1901-1969," Professional Geographer, Vol. 23 (1971), pp. 54-58.

11. Mitchell, pp. 117-119.

12. Carleton P. Barnes, "Land Resource Inventory in Michigan," Economic Geography, Vol. 5 (1929), pp. 22-35; McMurry, pp. 7-20.

13. W. W. Atwood, "Utilization of the Rugged San Juans," Economic Geography, Vol. 3 (1927), pp. 193-209; R. S. Platt, "A Detail of Regional Geography: Ellison Bay Community as an Industrial Organism," Annals, Association of American Geographers, Vol. 18 (1928), pp. 81-126.

14. Marion Clawson, "Economics and Environmental Impacts of Increasing Leisure Activities," Future Environments of North America, eds. F. F. Darling and J. P. Milton (New York: Natural History Press, 1966), p. 256.

15. Ibid., pp. 259-260.

16. U. S. Outdoor Recreation Resources Review Commission, Outdoor Recreation for America (Washington, D. C.: Government Printing Office, 1962), p. 26.

17. Warren J. Kelvie, "Urban Recreation Demands--The Recreation Imperative," 1970 Proceedings, Western Resources Conference, University of Denver, 1970, pp. 217-222, quote p. 220.

18. Ibid.

19. Ibid., p. 218.

20. U. S. Outdoor Recreation Resources Review Commission, National Recreation Survey, Study Report 19 (Washington, D. C.: Government Printing Office, 1962), p. 4.

21. James R. Anderson, "Recreational Uses of Land and Water and Associated Bioenvironmental Problems," Engineering Progress, Vol. 21, No. 6 (1967), pp. 60-66.

22. Ibid., p. 65.

23. Mitchell, pp. 117-119.

24. Kevin C. Kearns, "On the Nature and Origin of Parks in Urban Areas," Professional Geographer, Vol. 20 (1968), pp. 167-170.

25. Ibid., p. 167.

26. Charles A. Stansfield, Jr., "The Geography of Resorts: Problems and Potentials, Professional Geographer, Vol. 23 (1971), pp. 164-166.

27. Terence M. Burley, "A Note on the Geography of Sport," Professional Geographer, Vol. 14 (1962), pp. 55-56.

28. Mitchell, p. 118.

29. Earl B. Shaw, "Geography and Baseball," Journal of Geography, Vol. 62 (1963), pp. 74-76.

30. Comments by author, pp. 25 and 27.

31. William H. Colburn, "Projecting Recreational Demand--A Practitioner's Critique," Predicting Recreation Demand, Technical Report No. 7, Department of Park and Recreation Resources (East Lansing, Michigan: Michigan State University, 1969), pp. 36-49.

32. Ibid., p. 48.

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CHAPTER II

REGIONAL AND TOPICAL SETTING

Geographic research can focus on a regional setting, a topical activity, or a resource category. This study attempts to collapse these three subject approaches into a focus that incorporates elements of each. A region was selected, but this is not intended to be a traditional regional study. A single human activity restricts the subject, but further confinement is deliberate in order to shed at least partial light on use of a specific resource.

Study Region and State

Southeastern United States

The South, and especially the Southeast region, is particularly well blessed with outdoor recreation resources. There are many diverse opportunities for outdoor recreation in this region of mild climate, a variety of natural landscapes (from mountains to seashore) and an abundance of natural lakes and reservoirs (constructed by TVA, Corps of Engineers, and private power companies) situated among forests and rural farm lands. Limited access highways and

good primary and secondary roads traverse this vast recreation region and provide convenient links with the densely populated regions to the north.

Despite this setting for outdoor recreation research and development, there appears to be a major regional lag--by comparison with other parts of the United States--in research on outdoor recreation topics. A spokesman for the National Park Service recently commented on the ever present "...need for research that will generate factual information to guide planning and management decisions."[1] Yet, a simple survey of available literature shows an obvious dearth of such essential information being gathered in the Southeast.

Virginia Polytechnic Institute sponsored in 1967 a seminar on the status of outdoor recreation research in the South.[2] The report on this seminar demonstrates an overwhelming need for all kinds of outdoor recreation research in the region.

Speakers Schell and Stern suggested the following reasons for this regional research lag: (1) A lagging urbanization rate combined with heretofore easy access by city residents to rural water based recreation opportunity, (2) General absence of noticeable crowding and use conflicts at recreation areas, (3) A lower per capita income level, (4) Lack of identification as a major tourist destination

area (except for Florida), (5) A general rural orientation of the population, (6) Failure of policy makers to realize the economic development potential and present value of outdoor recreation within the region, and (7) Unresponsive universities that still contend with more traditional developmental problems.[3] In short, little demand has thus far been generated for recreation research information--whether applied or basic. Apparently rules of thumb, intuition, and experience have been relied upon in most southern development and planning endeavors.

Most of the research conducted in the Southeast has been done by the U. S. Forest Service and the agricultural experiment stations of the land grant universities. In addition, some work has been done by the TVA and the U. S. Army Corps of Engineers. Most of the information generated by these studies has concentrated on resource management techniques, use estimation techniques, customer profiles, and recreation economic impact on area development (by Economic Research Service and Economic Development Administration).

The spatial aspects of southern outdoor recreation have also been neglected in favor of studies in other regions of the United States. Table 2 demonstrates the paucity of work by geographers in this region. Among 185 titles with at

TABLE 2

OCCURRENCE OF SOUTHEASTERN UNITED STATES RECREATION STUDIES IN NORTH AMERICAN GEOGRAPHICAL AND ALLIED JOURNALS

Journal	Southeast	Other Regions and Topics
Annals, A.A.G.	2	48
Economic Geography	4	41
Geographical Review	2	26
Professional Geographer	0	14
Journal of Geography	1	9
Southeastern Geographer	6	5
Land Economics	1	35
Papers/Proceedings, Regional Science Association	0	5
Journal of Regional Science	0	2

Note: Includes articles of at least part recreation content; titles, articles and abstracts, dated ca. 1930-1972.

Source: Data by author.

least a partial treatment of recreation only 16 dealt with the Southeast. None of the regional science recreation articles, and only one of 36 recreation articles in Land Economics dealt with the Southeast. Perhaps even more interesting is the fact that the voice of southern geographers, The Southeastern Geographer, only has 6 of 11 recreation titles dealing with Southeastern studies. Of all these studies, 3 were of national scale, 8 were on the mountains, hills and lakes of Tennessee, and only one each on the South Carolina coast, a city, Kentucky forests, the Florida Everglades and a general Florida study. In addition, of the 192 geography masters and doctoral theses listed in The Professional Geographer (completed and in progress) on recreation topics only 14 have concerned the Southeast (6 in coastal areas).

Florida

Since Florida development began about 1870, there has been a continual growth in resident population and number of visitors. A major increase in visits came with the building of railroads before the beginning of this century by Flagler to St. Augustine and later Miami, and by his rival Plant who developed a route to Tampa. Both men built hotels that served as resorts for wealthy visitors from many parts of

the world.[4] For a number of years Florida was primarily a winter playground for the wealthy. This was no doubt due to the difficulties and expense of traveling long distances by land from eastern and midwestern cities.

Indicative of increased popularity, by 1925 new construction on Miami Beach was valued at more than 17 million dollars, a tremendous boom over the 1920 assessed real property valuation of only 225,000 dollars.[5] Not only was there a great land business boom and later "bust," but with expanded highway development, tourism also began to boom.[6] Slowly the traditional role of Florida as a place of winter fun in the sun for the wealthy has changed to accommodate all groups. Whereas J. Russell Smith was able to quip in 1925 about the dominant winter migration that "Northern man, the sun-hunter, is following the water fowl to Florida,"[7] a recent American Automobile Association guide proclaimed that now the lower east coast resort area is a "year-round vacation area available to even the most budget-conscious traveler."[8] The Miami Beach peak season is still, however, during winter.[9]

There are indications that Florida's growth as the nation's major southeastern recreation center is not yet completed, nor has it reached an equilibrium in regard to the share of amount and type of visitor flows into the state.

Still unknown is the effect of shifting by potential visitors to various islands of the Atlantic and the Caribbean, to Mexico, and South America as a result of non-Florida tourist promotion, inexpensive and convenient air transportation, and changed consumer attitudes toward the recreation potential of Florida and other places. However, the great winter migration is now supplemented by year-'round, and especially summer, movements of middle income groups who seek out all of the varied recreation destinations within the state. The trend in Florida vacation destinations originating in the eastern United States now may be involved in another modification in light of the tremendous visitor response to the newly opened first phase of Disney World.

Of particular interest is the newly developing Gulf coast, long considered by many as a less desirable area for spending recreation or vacation time in comparison to Florida's more developed east coast.[10] Though touristically less important than other parts of the state, the coast from the Tampa-St. Petersburg area south to Ft. Myers (and more recently continuing south to Naples), benefitted from early railroad access incentive and city development in this tropical fringe climate and attracted considerably more recreation visitors than Gulf coastal areas to the north. Yet John Fraser Hart perceptively calls the nation's entire

Gulf Coast the "Growth Coast" because of its rapid amenity oriented industrial, recreation, and population growth.[11] Based on census data and field work, Hart has demonstrated that within a band of land 50 miles wide and paralleling the Gulf Coast is the most rapidly growing part of the South. It is particularly meaningful to note that Florida's northwest, continentally oriented coast has thus far lagged behind some other areas in land development. It still offers a potential for controlled regional growth planned around carefully evaluated decisions concerning its remarkable beach resource base.

Coastal Beaches--The Resource Component

Having previously established Florida's recreation lands for enquiry, it was decided to limit observation to a resource base critically in need of study. The resource topic, coastal beaches, was selected from among the several different coastal and interior environmental topics suitable for study chiefly on the basis of approaching critical supply levels.

National Setting

As early as 1936, despite a depression-caused low ebb of tourism,[12] certain groups were aware of the limited amount of coastal land in public ownership. The National

Park Service was then considering 16 potential national seashore areas.[13] These were mainly on the Atlantic and Gulf coasts where there existed greater assumed population need as well as the most pressing need to reserve some coastal land before private ownership excluded the public from the entire coast. But preservation of public seashore was slow. Authorized in 1937, the land to be called North Carolina's Cape Hatteras National Seashore was not under Park Service management until 1952.[14] Notable in explanation of this slowness and the failure of the 20 or so other areas to materialize as seriously considered potential national seashores was the fact that land acquisition was either practically impossible or greatly hindered by the existence of private control over nearly all the desirable Atlantic coast lands, especially those near major cities.[15]

Harold Ickes, then Secretary of the Interior, summed the problem in a 1938 speech:

> When we look up and down the ocean fronts of America, we find that everywhere they are passing behind the fences of private ownership. The people can no longer get to the ocean.... I say that the people have a right to a fair share of it.[16]

Ickes' words were little heeded, however. By 1955, when the National Park Service reinventoried the lands recommended by

a 1935 survey as unspoiled seashore suited for designation as national preservation-recreation areas, it found that most of this prime coast of 437 miles had passed into private and commercial use.[17]

In 1962 another inventory of recreation shoreline was made by geographers at The George Washington University for the Outdoor Recreation Resources Review Commission.[18] Though more detailed, this report was essentially the same as that made by Ickes in 1938. Only slightly more preservation has resulted on the national scale.

The President was told:

> A most pressing problem of supply is ocean...shoreline. This resource is one of the most in demand, and it is one of the most scarce in public ownership.... Less than 2 per cent of the total shoreline [of the nation] is in public ownership for recreation -- only 336 miles on the Atlantic coast....[19]

The George Washington University report to the Review Commission concluded that "there is a crisis in shoreline outdoor recreation. The shoreline is vanishing in the sense that private ownership is inhibiting public use."[20] The report cited studies that indicated an overwhelming preference among the general population for seashore as compared to inland recreation settings (particularly uplands and mountains)[21] and for beach shoreline over other types of shores.[22]

The most noteworthy contribution of the ORRRC study on recreation shoreline was its recognition that there existed a real "...need for coordinated planned action--based on adequate information and upon clear statements of public policy...."[23] However, the study report cautioned that present knowledge of use and users of the nation's recreation seashore was virtually inadequate for planning.[24] "One of the greatest stumbling blocks in evaluating recreational use of the American shoreline is a lack of precise information: data on both users and the resource are badly needed."[25] Thus, there was, in 1962, a clear mandate for outdoor recreation research in the coastal resource base. Since 1962 a few diverse studies have been completed within this resource framework (and will be reviewed in other parts of this dissertation) but they have only begun to scratch the surface of the research information need.

Florida Setting

The Florida beach resource situation must be seen against a national backdrop of increasing demand for coastal outdoor recreation and an ever-decreasing supply of seacoast open to public use.[26] Due partly, perhaps, to climate and a certain unexplained tourist appeal in the state's name and physical geography, there exists in Florida an outdoor

recreation industry of major proportions that serves out of state visitors as well as a rapidly growing resident population.[27] Practically the entire nation functions as the Florida tourist tributary area, with a major proportion of visitors and residents alike exhibiting a preference for Florida's coastal sand beaches. In fact, it is primarily the appeal of Florida's beaches that attracts many tourists.

Most of Florida's federally controlled recreation coast lies within the area set aside in 1947 as the Everglades National Park.[28] Little accessible sand beach lies within the park (Monroe County) which functions primarily as a wildlife and nature preserve. A decision to make part of the Northwest Coast a national seashore has recently been made.[29] To be known as the Gulf Islands National Seashore, the area will extend from Pensacola eastward an unknown distance and will be composed primarily of various existing military and federal island holdings.

Activity Subsystem--Family Camping

Camping research stemming from the tremendous popularity of the activity has presented a number of thoughts that demand increased attention. Though a lot of facts have been gathered, and much supposition has been made, there remains a large number of questions that must be answered before good planning for family camping can be done.

National Setting

In 1960 about 8 per cent of the nation's population, age 12 or older, camped (10 million participants) on about 60 million occasions. By 1965, 10 per cent were camping (14 million participants), for a gain of 35 per cent over gross participation figures for 1960.[30] Furthermore, 1962 ORRRC projections, since shown to be low estimates for they called for only 11 per cent of the population by 1976, predict that at least 14 per cent of the population of the year 2000 (36 million participants) will be campers.[31] Projections made in 1965 for the year 2000 call for 328 million camping occasions.[32] Regardless of specifics of projection the direction is up, indicating a need for careful planning and resource allocation to meet increased camping pressures.

That camping is not what it used to be is obvious to any experienced camper. From simple tents and a "roughing it" experience the activity has moved to use of basic equipment (for many) that results in an experience that is more like apartment dwelling. With greater sophistication in equipment has come expanded interest in camping from the manufacturing and service industries.

For example, the June, 1971 issue of Changing Times listed camping as one of the recreation activities whose

manufacturing and service base has recently been elevated to the status of a growth industry.[33] Thus, investment analysts expect sales and profits in the camping industry to rise faster than the rest of the economy. They expect a 10 to 20 per cent annual growth rate for several years before an industry slowdown.

In the 1960 to 1970 decade, nationwide tent sales rose from 46 to 87 million dollars while sleeping bag sales climbed from 34 to 58 million dollars. Between 1961 and 1969 production of camping vehicles increased over 400 per cent, while luxurious motor home sales are currently rising at a 25 to 30 per cent annual rate.[34]

The growth of camping and recent sophistication of the associated industry has been national in impact. Florida, with its associated name and allure for outdoor oriented travelers, has particularly felt the ramifications of this recreational trend.

Camping in Florida

Following the Civil War, a few campers drifted into Florida to see what lay in store in the great wilderness. At a time when Jacksonville, with a population of about 10,000, was the state's largest town, a few wealthy and adventurous travelers contracted with guides and

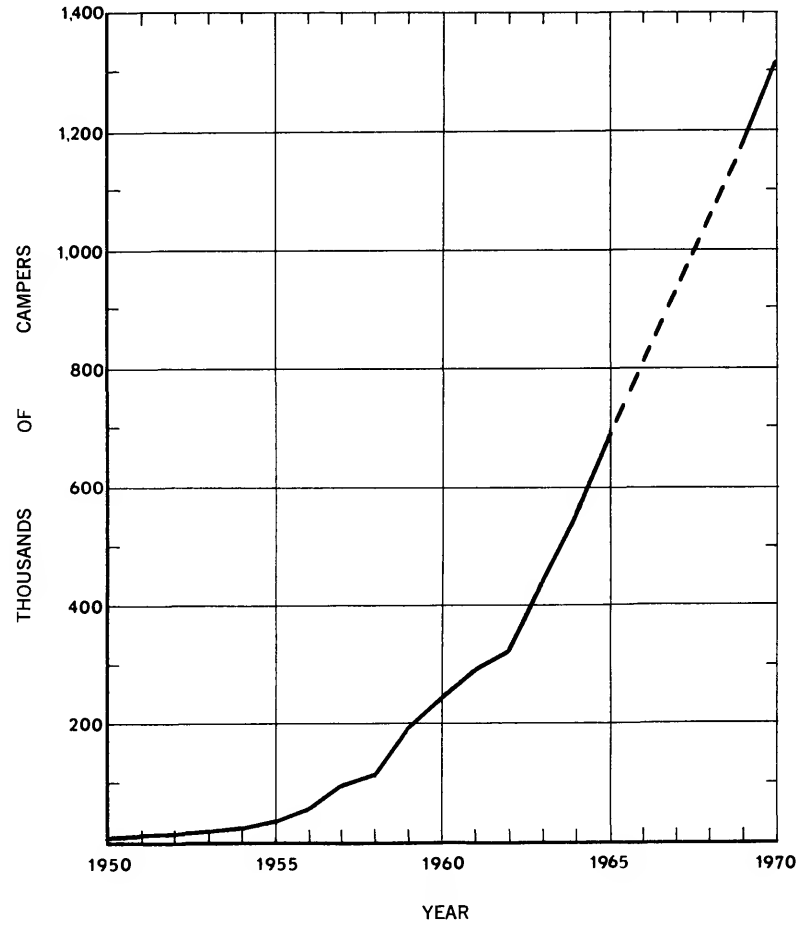
camp-toured around the better known parts of the state, hunting, fishing and general adventure seeking.[35]

Fifty years later J. Russell Smith described early motor camping along the network of Florida highways and byways.[36] While the millionnaire yachted or took a train to Palm Beach, Miami, or Jacksonville to vacation in a luxury resort hotel, the midwestern, New England or Canadian farmer camped along the roadside. Smith, in 1925 offered this description of such campers:

> He ties his tent and cooking outfit on the running-board of his Ford and camps by the wayside -- "tin-can tourist," the hotel-keepers contemptuously call him. Many spend the winter in one tourist camp after another ..., [while they have] free access to the pines, the sun, and the seashore. He has the gentle excitements of a strange land and of moving from place to place....[37]

Camping in Florida has changed a great deal since 1925 when campers stopped at undesignated places and tourist camps. By 1970 Florida ranked sixth in the nation in number of campsites. About 25,000 sites were scattered around the state in 86 public parks and recreation areas and 813 private camp grounds.[38] Furthermore, as shown in Figure 1, camping has increased at a very high rate, as shown by the steepness of later parts of the curve. Of course, this curve is an incomplete indicator, for it neither considers affects of

PARTICIPATION TRENDS IN FLORIDA STATE PARK CAMPING



Source: State of Florida, Outdoor Recreation in Florida (Tallahassee: Division of Recreation and Parks, 1970), p. 55, with revisions from Division of Parks, Superintendents Reports.

Figure 1

increased park supply on participation nor the effects of rapid growth of the private campground industry in recent years. Incomplete data prevent such considerations, hence one is forced to enlarge on such trends as can be seen in Figure 1. The rate indicated by the steepest, most recent curve segment would seem unlikely to continue for many years, for park supply considerations must cause a maximum to be reached eventually. (The 1970 camper attendance figure is about 11 per cent over attendance for 1969.)[39]

NOTES

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2. Hugh A. Johnson, ed., Outdoor Recreation Research in the South, Publication No. 5, Southern Land Economics Research Committee (Blacksburg, Virginia: Department of Agricultural Economics, Virginia Polytechnic Institute, 1967).

3. Kerry F. Schell and P. M. Stern, "Recreation Research in the South: Where and Why Does It Lag?" Outdoor Recreation in the South, ed. Hugh A. Johnson, Publication No. 5, Southern Land Economics Research Committee (Blacksburg, Virginia: Department of Agricultural Economics, Virginia Polytechnic Institute, 1967), pp. 33-40.

4. Grant McCall Roberts, "Recreation in West Central Florida," (Master's thesis, Department of Geography, University of Florida, 1967), pp. 16-29.

5. Daniel M. Friedenberg, "America's Land Boom: 1968," Harper's Magazine, May, 1968, pp. 25-32.

6. Factors associated with the promotion and boom of the Florida land business and its eventual "bust," are discussed in Homer B. Vanderblue, "The Florida Land Boom," Land Economics, Vol. 3 (1927), pp. 113-131, 252-269; Richard O. Cutler, "Amelia Island, Florida: A Geographic Study of Recreation Development" (Ph.D. dissertation, Department of Geography, University of Florida, 1965), pp. 178-184.

7. J. Russell Smith, North America (New York: Harcourt, Brace and Company, 1925), p. 277.

8. American Automobile Association, Florida Tour Book, Spring-Summer, 1969 (Washington, D. C.: American Automobile Association, 1969), p. 40.

9. Ibid.

10. See, for example, the Non-Florida traffic flow map for Florida Highways in 1934 in L. E. Peabody, "Extracts from Report on Florida Traffic Survey," Public Roads, Vol. 16 (1935), pp. 68-72.

11. John Fraser Hart, The Southeastern United States (Princeton, New Jersey: Van Nostrand, 1967), p. 72.

12. John Ise, Our National Park Policy, Resources for the Future (Baltimore: The Johns Hopkins Press, 1961), pp. 355-356.

13. Ibid., p. 425.

14. Ibid., p. 519.

15. Ibid., p. 426.

16. Ibid., pp. 426-427.

17. Ibid., pp. 519-520.

18. U. S. Outdoor Recreation Resources Review Commission Shoreline Recreation Resources of the United States, Study Report 4 (Washington, D. C.: Government Printing Office, 1962).

19. U. S. Outdoor Recreation Resources Review Commission, Outdoor Recreation for America (Washington, D. C.: Government Printing Office, 1962), p. 70.

20. U. S. Outdoor Recreation Resources Review Commission, Shoreline Recreation, p. 30.

21. Ibid., p. 3.

22. Several shoreline definitions were made in this study but they were wholly unsatisfactory since they were most often restatements of classification titles: for example, "shoreline resource" was "where land and

reasonably large bodies of water meet"; "recreation shoreline" was shoreline suited for recreation use, "beach shoreline" was "a wide expanse of sand or other beach material lying at the waterline and of sufficient extent to permit its development as a facility without important encroachment on the upland," "marsh shoreline" was "tidal or nontidal marsh," and "foreshore" was that land below the high tide line. Ibid., pp. 31-32.

23. Ibid., p. 30.

24. Ibid., p. 29.

25. Ibid.

26. It has been estimated that it is unlikely that supply can match the best projections of the nation's needs for coastal beaches by 2000, which would seem to call for a consciously efficient way of managing existing and obtainable resource areas. Ibid., p. 27.

27. Florida had the second greatest growth rate in the nation between 1960 (4,952,000) and 1970 (6,789,000) for a gain of 37 per cent. U. S. Bureau of the Census, 1970 Census of Population, PC (VI)-1, United States (Washington, D. C.: Government Printing Office, 1971).

28. Ise, p. 444.

29. Florida Conservation News, Newsletter of Florida Department of Natural Resources, Vol. 7, No. 2 (1971), p. 4.

30. U. S. Bureau of Outdoor Recreation, Outdoor Recreation Trends (Washington, D. C.: Government Printing Office, 1967), p. 23.

31. U. S. Outdoor Recreation Resources Review Commission, Prospective Demand for Outdoor Recreation (Washington, D. C.: Government Printing Office, 1962), p. 27.

32. U. S. Bureau of Outdoor Recreation, p. 20.

33. "Investing in Companies that Profit from Pleasure," Changing Times, Vol. 25 (1971), pp. 35-40.

34. Ibid.; U. S. Bureau of Outdoor Recreation, Selected Outdoor Recreation Statistics (Washington, D. C.: Government Printing Office, 1971), p. 100.

35. Charles Hallock, Camp Life in Florida (New York: Forest and Stream Publishing Company, 1876).

36. Smith, p. 279.

37. Ibid.

38. David Shulman, "Great Opportunities in the Great Outdoors," Franchise Journal, Vol. 3, No. 11 (1970), p. 14.

39. Florida Division of Recreation and Parks, mimeographed Superintendent Report Summaries, attendance records, 1970.

CHAPTER III

STUDY AREA AND RESEARCH DESIGN

Representative Problem Area

The need for outdoor recreation research within the nation's coastal resources was established in Chapter II. Selection of the Northwest Coast of Florida as a general study area, or the coast district to which sample generalization would be extended, was determined on the basis of several points: limits of a spatially manageable field problem, ease of definition of the study area within defensible spatial boundaries, existence of a still undeveloped coastal district with considerable outdoor recreation potential, and ease of definition of a meaningful time cross-section for study.

Physical Factors

Though other factors might be brought to bear, it is probably the physical character of the shoreline that forms the most logical identification of the study area.[1] The Florida shoreline on the most elementary physical level can be classed as beach, marsh, and mangrove types. Figure 2

GENERALIZED SHORELINE TYPES IN FLORIDA

Source: State of Florida, Outdoor Recreation in Florida (Tallahassee: Division of Recreation and Parks, 1970), p. 81.

Figure 2

shows the arrangement of these shoreline types in Florida and it will be seen that three distinct beach districts are distinguishable.

The beaches of Florida's east coast are part of a gently sloping shelf that extends along most of the Atlantic coast of the United States. Beaches of exposed sand and shell fragments are washed by the warm waters of the Atlantic as far south as Dade County where mangrove swamps become more dominant at the water's edge.

Florida's coastal tip is covered with dense broadleaf evergreen shrubs and low trees with aerial stilt roots varying locally between black mangrove (Avicennia nitida) and red mangrove (Rhizophora mangle) which extend into the water and landward as far as salt marsh conditions prevail.[2] Scattered openings on small sand or coral beaches lie in this district but usually they can be reached only by water.

The mangrove forest extends north along the Florida Gulf coast eventually existing only in small protected bay areas. Open sand beaches prevail from Lee County (off shore from Ft. Myers) north to the Pinellas County northern line.

The map area in northwest peninsular Florida designated marsh extends from the Pinellas County line northwest to Wakulla County and is low lying saline to brackish tidal marshland with coastal swamp forests. Here the shore is

often a transition zone between open water and flooded rush, sedge and grasslands.[3]

West of the tidal marshes of Apalachee Bay along the Florida panhandle to Alabama lies another coastal beach district. Except in marshy lowlands along bay shores this area is fringed at land's edge by sand beaches and offshore barrier islands of dune piled sands. Thus, one reason this beach area was selected for study is its clearly discernible eastern physical boundary.

Recognition as Regional and Recreational Entity

As has been recently the custom among state development commissions and tourism promoters, Florida is divided into advertising regions. The "Miracle Strip" of Northwest Florida extends from the western Escambia County line to the eastern edge of Gulf county and coincides approximately with the physically defined Northwest Beach District of Figure 2, lending credence to its selection as a problem area. The "Miracle Strip" is named for the area's unifying coastal strip of dazzling, sugar-fine, miraculously white sand beaches. The sands are among the whitest found on Florida's coastline. Composed of very low proportions of shell and coral fragments which tend to discolor other beaches, the sand is almost pure white quartz fragments. It is said that

steepness of offshore slopes prevent most shoreward shell movement by wave action.[4]

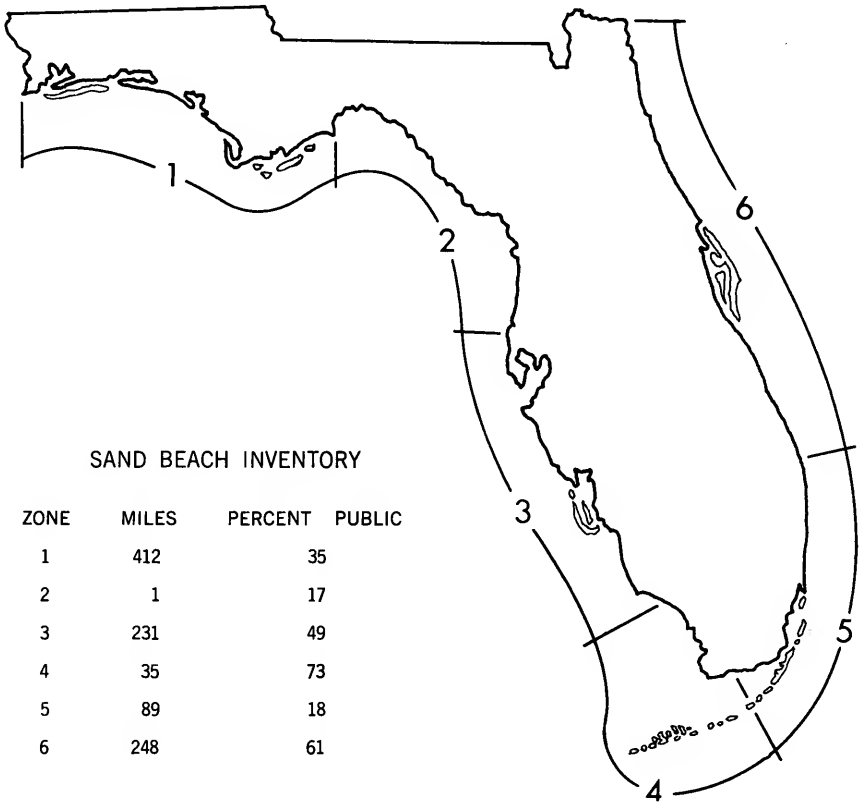
Florida's Last Beach Frontier

By law, all areas seaward of an average high tide line are property of the State of Florida with disposal right held by the Trustees of the Internal Improvement Fund. Therefore all beaches are public since riparian property rights include only areas landward of mean high tide.[5] Riparian owners can, by blocking access or not allowing automobile parking, cause public beach to be effectively private by exclusion. A 1963 study by the Florida Development Commission, still adequately shows the relative distribution of beaches backed by public riparian land along the Florida coast.[6]

Figure 3, which should be compared with Figure 2, shows the distribution of Florida's beach resources. The 8,000 mile salt water shoreline, composed of 1,016 miles of sand beach, includes only 299 miles of publicly owned and potentially accessible beach; however, 52 miles of military held land is not open to recreation activities, leaving a total of 247 miles of available public sand beach.[7]

The beaches of map zone 6 on the east coast, extending from the Georgia state line to Palm Beach County (Nassau

DISTRIBUTION OF FLORIDA BEACH RESOURCES



SAND BEACH INVENTORY

ZONE	MILES	PERCENT PUBLIC
1	412	35
2	1	17
3	231	49
4	35	73
5	89	18
6	248	61

Source: Adapted from State of Florida, Florida Beach Resources (Tallahassee: Florida Development Commission, 1963).

Figure 3

through Martin Counties), have been largely developed and under restrictive private ownership for many years. Though undeveloped areas still exist, for practical description any future planned development along this coast will be redevelopment. The zone total of 248 miles of beach is 25 per cent (61 miles) in public ownership, of which 9 miles are not open to use. Of this mileage, 30 miles are in Brevard County, and 13 are in Duval County.[8]

The densely populated and intensively developed "Gold Coast" (zone 5) has only 18 miles of public beach, 20 per cent public, and little potential for new acquisition. Monroe County is represented by zone 4 and has 22 miles of public beach, most inaccessible except by boat in the Everglades National Park.[9]

The west coast peninsular beaches of zone 3 (Pinellas through Collier Counties) have several stretches of undeveloped or lightly used beach, however, the zone has been a traditional tourist destination with an early history of development in the Tampa Bay area. Remaining undeveloped coastline is rapidly catching up with the east coast level of development. Forty-one miles of open public beach lie in this zone. (Four miles of federal land are closed to use.)[10]

Less than one mile of public beach is available in zone

2 in Levy County. In fact, the marsh zone has only two small artificial beaches totaling about one mile in combined extent.[11]

Zone 1 (Franklin through Escambia counties) has by far the greatest extent of sand beach with 412 miles. Thirty-five per cent of this is public land of which 93 miles are open to use. Here lies 38 per cent of the state's total public open beach and the relatively undeveloped state of land use may provide the greatest potential for expansion of public beach lands. It is here that Florida's last beach frontier lies. It would seem imperative for the coastal lands to be used more effectively, with long range regional objectives in mind.

Therefore, the Northwest Florida Coast was selected for study. The district is physically distinguishable from the rest of the Florida Gulf coast by the non-beach district on Apalachee Bay. Furthermore, its relatively undeveloped condition and great recreation beach resource potential imply needs which make the area a logical study district of Florida.

National Significance of Area

An additional reinforcing reason for selection of the Northwest Coast is its singular outdoor recreation

development potential and value. Certain agencies have recognized the Northwest Florida Coast specifically as being of more than state or regional significance. A recent coastal study described the Gulf coast as "...one of the greatest assets of the nation...especially for tourism and recreation."[12] A 1970 recreation potential report on islands of the United States lists the offshore barrier islands and adjacent mainland areas stretching from along the Northwest Florida Coast toward Mississippi as having particularly great potential for recreation and conservation--of national significance.[13]

Operational Study Area

Since the resource focus selected was coastal beaches and the general or representative area of enquiry was the Florida Northwest Beach District, there remained only identification of the inland extent of enquiry and the selection of specific study sites to represent the Northwest Coast problem area.

Linear Beach Fringe Focus

Field study of the area during 1968 and 1969 suggested that a subjective definition of the beach zone would be adequate to define the inland limits of the operational study area. Though some recreation activity and visitor

services were found to be located along the shores of the district's bays and inland lakes and in other interior locations, it was decided to concentrate on those places specifically ocean-beach oriented.

It became apparent while the author traveled the highways, roads and dirt tracks of the area that there was an easily observable narrow zone of land use and development directly adjacent to the shores of the Gulf and this strip was separated from developed areas landward by a variable expanse of functionally unassociated land.

It should be quite apparent to even the modestly perceptive casual traveler-observer that those who build in this sector of land's end prefer sites within view of the water, or at least within hearing distance of the surf. Thus, despite the presence of well constructed coastal highways, people settle, build vacation homes, or invest in construction of visitor lodgings and recreation facilities along poorly surfaced local dune fringe by-ways or at the end of clay reinforced tracks that lead to water's edge.

In light of this apparent locational tendency of coastal land development, it was decided to limit the interior extent of this study to include only the coast fringe or strip that is known locally as "the beaches." It should also be noted that the beach land use strip varies in extent

with local development pressures. For example, the present strip varies from less than a mile to approximately three miles in width (the latter in the Panama City area).

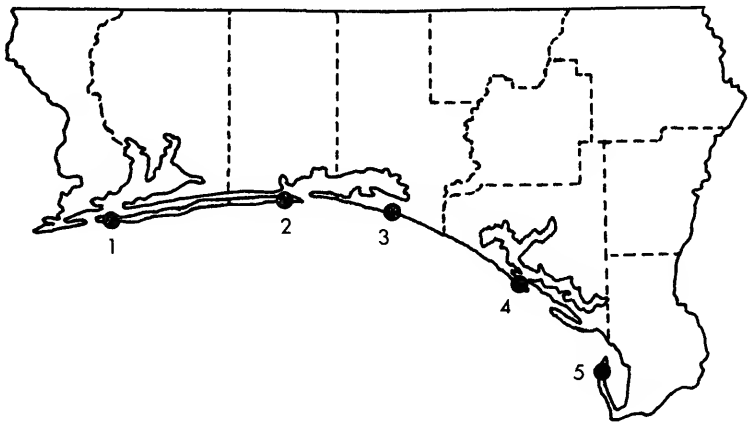
Primary Study Sites--State Parks

Figure 4 outlines the general study district of Florida's Northwest Coast, i.e., the "Miracle Strip" of white sand beaches. Only Gulf beach state parks are located, because by definition of the focus on the beach zone of land use, bay front and other interior parks were excluded. In the interest of manageable research, only two state parks and their satellite private campgrounds were selected to represent the general area.

Preliminary field studies in 1969 provided a basis for discriminating between the parks. Park diversity was determined to be critical for the selective examination; therefore, the two most unlike parks were selected for examination.

Henderson C. Beasley State Park was not considered. It is a small (4 acre) day-use picnic and beach use facility located at roadside one mile east of Fort Walton Beach on US 98, the main coastal artery, and has no camping provision.[14] The remaining four state parks were ranked as though by a subjectively devised development-isolation index (Table 3) in the following order, from most to least developed: St.

NORTHWEST FLORIDA BEACH STATE PARKS



PARK LEGEND

1. FT. PICKENS
2. JOHN C. BEASLEY
3. GRAYTON BEACH
4. ST. ANDREWS
5. ST. JOSEPH

Figure 4

TABLE 3

PARK DEVELOPMENT-ISOLATION RANKING

Park	Park Area (acres)	Camp Sites	Park Facilities[a]	Recreation Water[b]	Miles From Town	Town View[c]	Camp Visitors[d] (1,000)	Day Visitors[d] (1,000)	Rank
St. Andrews	1022	184	Many	B/G	5	Yes	99	512	High
Ft. Pickens	1659	203	Many	B/G	17	Yes	151	330	High
St. Joseph	2516	120	Fewer	B/G	10	Yes	27	48	Lower
Grayton Beach	356	36	Fewest	L/G	20	No	12	83	Lowest

[a] Recreation and visitor service facilities.

[b] B = bay shore; G = Gulf beach; L = lake.

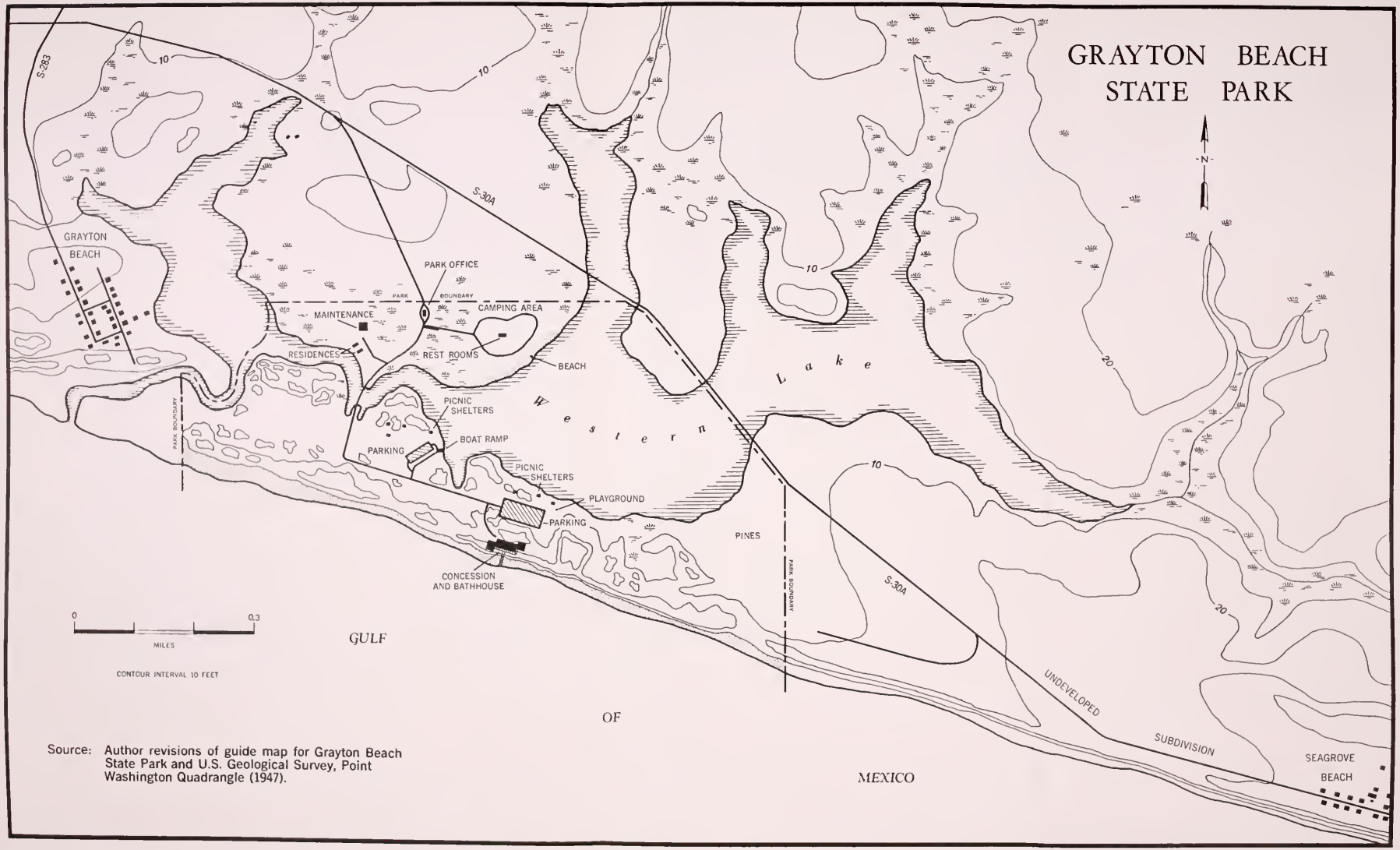
[c] Based on view from any park perimeter.

[d] July 1, 1969 to June 30, 1970.

Source: Park records and field data.

Andrews, Ft. Pickens, St. Joseph and Grayton Beach. Since either of the highest ranking parks would have been satisfactory, St. Andrews was selected to pair with Grayton Beach as the basis for a conveniently defined 40-mile long functional study area approximately central within the Northwest Coast.[16]

Grayton Beach (Figure 5) is the smallest park with only 356 acres while the other parks all are larger than 1,000 acres. With the smallest campground capacity (36 sites) and the least total number of campers (operating at less than capacity), Grayton is by use-comparison the least popular of these four camping parks. In addition, with the exception of a small lake, Grayton has shoreline frontage on only the Gulf, while the other three parks all have bay shore in addition to the Gulf surf. Partly because of greater opportunity for water-based recreation activity and larger size, the other parks all have a considerably more elaborate selection of recreation and service facilities. Both St. Joseph and Grayton are remote by comparison to either of the other parks; however, the industrial community of Port St. Joe can be seen from across the bay at St. Joseph park. One must drive several miles from Grayton to find a view of urban development.



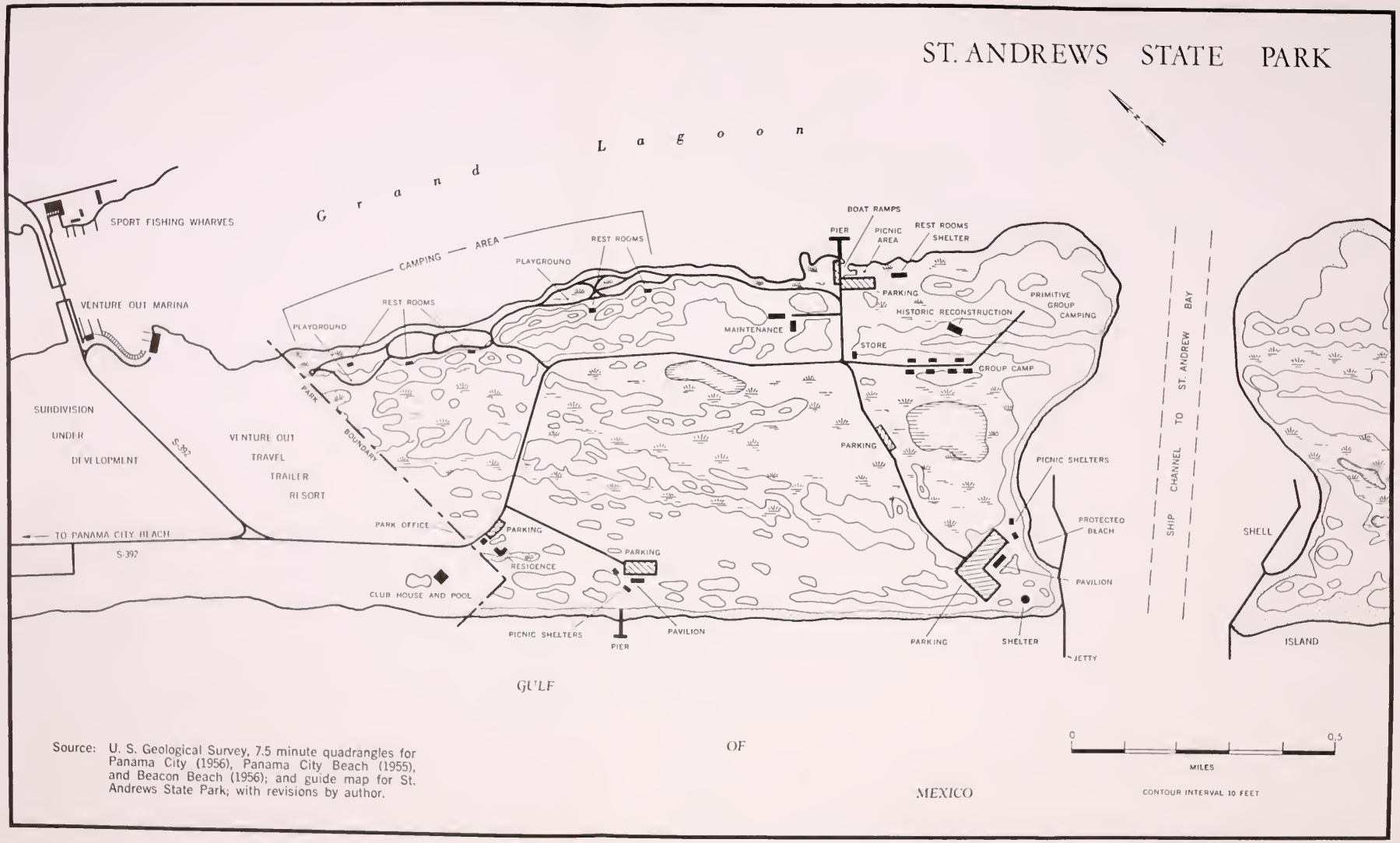
Source: Author revisions of guide map for Grayton Beach State Park and U.S. Geological Survey, Point Washington Quadrangle (1947).

Figure 5

St. Andrews park (Figure 6) is on the opposite end of a development continuum from Grayton Beach. The area's second largest campground capacity, it is the most heavily used park in the strip when non-camping visitors are considered. Though comparably developed internally, with similarly elaborate recreation and service facilities in comparison with Ft. Pickens, St. Andrews is only five miles from the nearest city (compared to 17 miles for Ft. Pickens), and has privately owned recreation and service development literally at its entrance gate. Ft. Pickens has several miles of buffering space between its primary use area and the nearest recreation development at Pensacola Beach, with its shopping centers and commercial entertainments. Thus, St. Andrews was selected as the opposite to Grayton Beach for a polarized park pair.

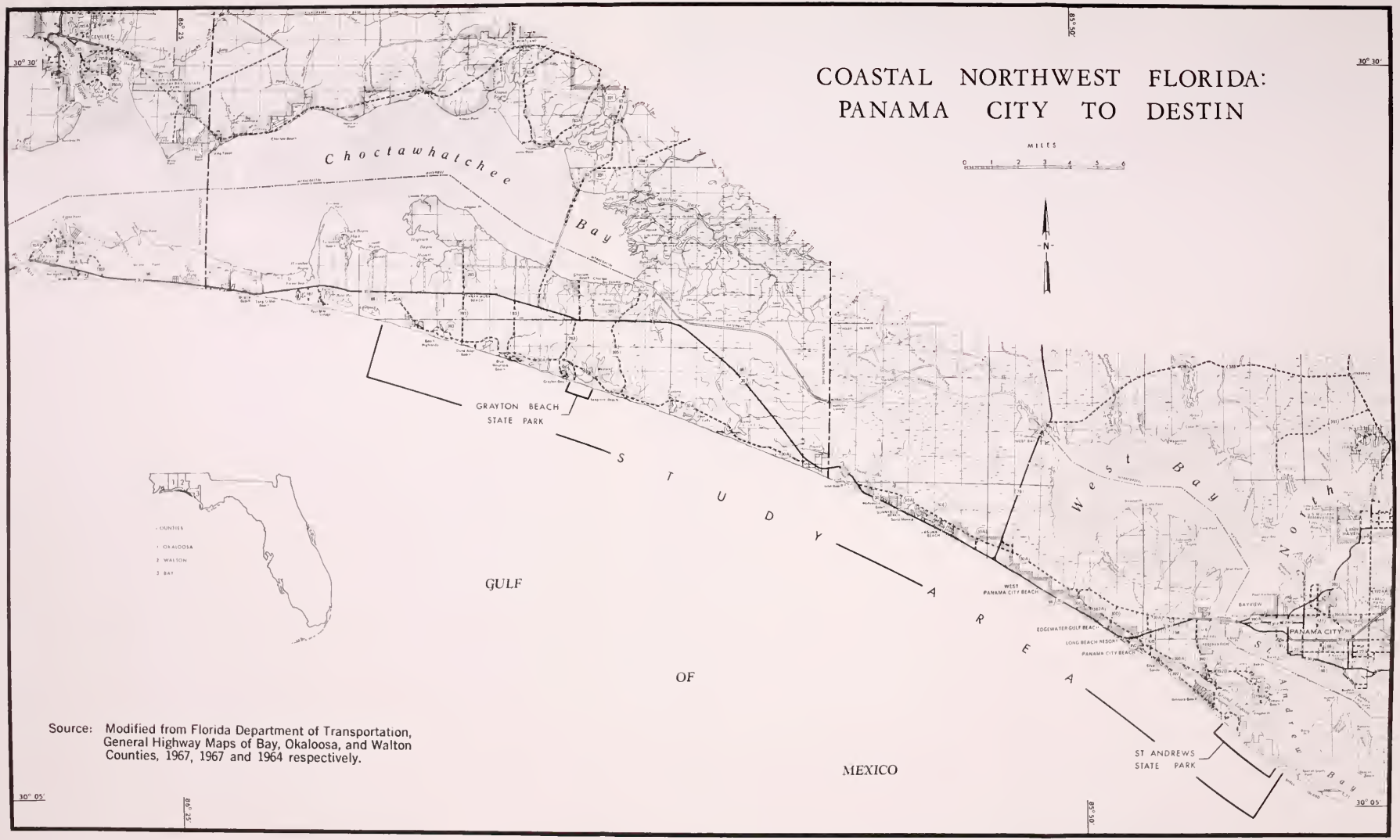
Operational East-West Limits

The central part of the Northwest Coast between Destin and Panama City (a detailed enlargement of the inter-bay land holding parks 3 and 4 on Figure 4) is shown in Figure 7. This map shows the location of Grayton Beach and St. Andrews state parks relative to one another and to the transportation and physical-cultural landscape between the bays. It will be seen that this location map also notes the operational



Source: U. S. Geological Survey, 7.5 minute quadrangles for Panama City (1956), Panama City Beach (1955), and Beacon Beach (1956); and guide map for St. Andrews State Park; with revisions by author.

Figure 6



Source: Modified from Florida Department of Transportation, General Highway Maps of Bay, Okaloosa, and Walton Counties, 1967, 1967 and 1964 respectively.

Figure 7

east-west limits of the study area. They extend from a point approximately mid-way between the village of Destin and Grayton Beach State Park, east to the accessible end of the barrier beach across the mouth of St. Andrews Bay, at St. Andrews State Park--a distance of approximately 35 highway miles.

It would be meaningless to specify a particular location in the zone between Grayton Beach and Destin as a terminous for the study area since the area around the mid-point is completely forested and lacks recreation or any other non-forest land use. There is even an absence of jeep tracks leading through the forest to the beach.

It could be asked why the entire interbay area from Destin to Panama City was not considered as part of the operational study area. Surely an area extending from the mouth of one great bay to another with the water of the bays and the connecting barrier swamps forming an interior border would be by its physical geography a meaningful spatial study unit. This would be true if it were not for the fact that most of the landward swamp and forest area thus enclosed has nothing to do with beach recreation, and from the village of Destin out to its associated highway thresholds the land is functionally unrelated recreationally to the area of beach development to the east.

Destin is primarily a salt water sport fishing center and differs considerably from its nearest western neighbor Ft. Walton Beach and from the Panama City beaches which are highly oriented toward beach use and nonfishing outdoor recreation activities. (Though it should be pointed out that the Panama City area does have a noted salt water fishing reputation stemming from use of its several marinas.) Field interviews taken in a number of different locations within or at the fringe of Destin tended to verify this difference.[16]

More concrete evidence for this difference is the observable contrast between the facilities and services offered the visitor to Destin or the Panama City beaches. For example, motels at Destin are likely to be named lodges and offer boat docks and small retail fishing tackle shops. Many fishing supply stores and outfitting shops are mingled with sea food restaurants and a plant making bulk boat ice. The Panama City beaches, though offering each of these services somewhere, in at least one location, has an overall development that contrasts with Destin. For example, motels are called motels or inns and they are often dressed with some type of fancy sounding seaside name that reminds the visitor of the sun, the sand and the surf. In addition, most motels offer swimming pools and many have gift shops, restaurants

of varied menu, and cocktail lounges. Instead of bait and tackle shops there are numerous small beach supply stores that offer for sale or rent any imagineable need for basking in the sun or playing in the sand and surf. Interesting enough, even ice vendors are different: instead of boat ice in which to pack fish, bags of tinkling ice cubes are available for glasses or beach picnic coolers.

Sequence of Area Recreation Development

The story of tourist development on the Northwest Coast of Florida fits within the sequence of state development in a similar fashion. Whereas the first major ripples of tourist development centered around St. Augustine, Miami-Palm Beach and Tampa, with service investment and visitor growth irregularly decreasing along unknown directionally variable gradients from these epicenters, only recently has the Northwest Coast been awash by these development-visitor waves. Similarly the Northwest Coast is involved in an internal wave-like diffusion in recreation-service land development out from particular propagation centers. The waves, restricted by physical geography, have spread linearly outward along the coast from centers at Panama City and Pensacola, with later development moving outward from Destin and Ft. Walton Beach. By development

is meant a sequential change in landscape modification and a general increase in functional complexity. The time function is stressed here, for the present sequence or development stage varies from place to place along the coast, with a general decrease in intensity of recreation land use along irregular gradients outward from the tourist-resort towns described above as propagation centers. Thus, areas midway between towns are still undeveloped and remain largely forested.

The development of recreation oriented land use within the operational study area is fairly representative of the entire Florida Northwest Coast. Development may be discussed in terms of three periods: the period before World War II, the post-war period, and the recent period. Particularly significant is the fact that the area's developmental history is largely a study of the development of local and regional transportation accessibility and the relative access factor of increased affluence in visitor tributary areas. Particularly impressive is the post-war impact of increased leisure time, mobility, and affluence on study area development of recreation service facilities concurrently with the growth of visitor patronage.[17]

Pre-War Period

In 1925, J. Russell Smith had very little to say about the Northwest Coast, except that it was a land of waterfowl and mosquito, sandy forests and only a little cultivation.[18] Despite English settlement as early as 1765 at St. Andrew (now Panama City) the area population grew very slowly and scarcely made a dent in the wilderness.[19] As recently as the 1920s, Bay County residents were still experiencing frightful encounters with "varmits" in the forests, swamps and bayous near Panama City. Cottonmouth moccasins, rattlesnakes, big alligators, black bear, and the screams of night prowling panthers punctuate the tales of residents who remember the times of only a generation ago.[20]

Before World War II most of the study area had a scarcely modified shoreline, with beach access mainly limited to jeep trails. A few roads existed, but fewer highways and essential bridges were in existence, with an associated minimal development mostly consisting of a few scattered cottages and "pioneering" residential homes. In the 1920s the 373-mile road trip between Jacksonville and Pensacola was a weather-dependent two or three-day trip. The main highway (US 90) from Pensacola to Tallahassee was then a dirt road with river ferries and commonplace dual

ruts. The study area was virtually isolated during the 1920s when the first all-weather road from US 90 at Marianna led to Port St. Joe (approximately the Florida 71 route). By 1927 a real access gain was made when the main northern route out of Panama City (US 231) was paved with ten miles of concrete.[21]

Midway between Panama City and Pensacola in isolated coastal Walton and Okaloosa counties, residents hacked out an existence in the forest and swamps of bayous feeding Choctawhatchee Bay, where a small lumbering and navel stores industry existed. Materials were boated out to Pensacola providing also a water communication link that helped develop a small Pensacola-based hunting and fishing resort business at Ft. Walton. Gambling soon developed and the isolated "sportsman's resort" grew in a kind of popularity. By the 1920s only a barely passable sand trail connected Ft. Walton to towns to the north. "That made it very convenient for certain gentlemen from Montgomery and Birmingham, who liked to take their vacations and bring their secretaries with them. They were certainly never worried about their wives coming down to see what was going on."[22]

By 1935, a significant gain in access was realized when US 98 was finished, linking Panama City with Pensacola.[23] Until that time the only coastal route went north from

Panama City around the extensive swamps and bayous at the eastern end of Choctawhatchee Bay and extended west along the north shore of the Bay. Prior to that date about nine miles of Gulf beach was accessible along or from US 98 at Panama City, and this marks what is today the most dense, area of tourist facility development.[24] Laguna Beach, located just west of the point where US 98 veered north from the beaches to avoid the bay swamps, was actually the first part of the Panama City Beach Sector to develop for visitors.[25]

Within the isolated Grayton Beach Sector only two resorts existed. Grayton Beach, platted and filed in 1890, is the older of the sector's pre-war developments.[26] Only a few fishing families settled there and by 1941 there were a few summer vacation cottages. About two miles away Seagrove Beach was developed with a hotel and a few cottages. Seagrove originally was used most by people from the northern parts of Walton County, particularly DeFuniak Springs.[27] West of Grayton Beach the small unincorporated, dispersed, private summer cottage concentration called Dune Allen was started in the late 1930s.[28] Inland, between the trail that was to become US 98 and a Choctawhatchee bayou, the small communities of Point Washington and Santa Rosa had a boom period after the Civil War, during the

area's early logging and naval stores period, and then all but died out.[29] (These communities continue to survive, but are not thriving. During the summer they are too far from town.)[30] Just west of the operational study area lies Destin, which during the pre-war period was only a commercial fishing community. In 1941, from Miramar to Destin there were no buildings, except for one country store-service station (near the World War II radar dome site), leaving only open beach for the traveler's eye.[31]

Post-War Period

During the war, with military activity and installations in the area a demand for housing was created by an influx of personnel. Panama City also had increased employment in the shipyards. Consequently, cottage complexes and individual houses were newly constructed in the Panama City Beach area. After the war these found their way into resort complexes. Post-war increases in levels of living and elevated economies in general, with associated gains in leisure time, in the visitor tributary area for the beaches, combined with population growth, greater mobility, and increased highway accessibility led to an increased use of the area for vacation and shorter outing destinations.

The lure of the Gulf with its waves, comfortable

temperatures, remarkably clean and clear (near-shore blue and off-shore green) water, glistening sugar white sand beaches and sea oats covered dunes attracted many visitors and established a reputation for the area that increased with use. Cottages were built, and others were replaced by apartments and motels, in turn to be replaced by still larger motels. Though the Laguna Beach area was first developed for visitors to the Panama City beaches, it stagnated during the post-war period when younger, less conservative, and more venturesome men developed the areas nearer to Panama City. These young men were able and willing to reinvest, expand and when necessary redevelop their properties and as a result their area is today the most intensively used part of the strip.[32]

For example, one young man, at age 22 a war veteran, invested 2,000 dollars in a two-story frame beach house. Today, one modest frame house on three lots, similar to his purchase, which could have been bought for from 2,000 to 5,000 dollars is now worth over 150,000 dollars. This man now owns two of the area's modern multi-level resort hotel-motels.[33]

Most of the motel owners came from Bessemer and the area south of Birmingham (Alabama). Furthermore, the Panama City motel business is dominated by families. The

Graham family, for example, operates 18 motels.[34]

More visitors and more spending resulted in growth in lodging facilities and an increase in services. An early development during this period was a casino and its amusements, a dance hall, and a large variety of other recreation and service facilities.

It is interesting that this newcomer to the state's tourist areas has not received much attention by geographers. For example, among the few early references made, Alsberg's popular travel guide for 1949 has only a parenthetical reference to the recreation setting along the Panama City beaches. The author informed simply that "a series of fine beaches line [the] Gulf coast between here [Panama City] and Pensacola (cottages, casinos, picnic facilities). In [the] background are dunes covered with shrub magnolia and rosemary and interlaced by salt marshes."[35] As recently as the late 1960s, standard regional geography texts have failed to recognize the resort development existing along the Northwest Coast of Florida. For example, Paterson, in 1965, mentions the resort industry of the Gulf Coast as being a winter business and in the Northwest only mentions Pensacola as an emerging resort along with its twin Biloxi.[36] Apparently only two geographers have recognized this particular resort region. Fraser Hart conjectured on its market area

characteristics and Morgan discussed land use.[37]

Recent Period

Present day development trends are not completely clear. There is evidence that a new period is just beginning and that the next period may be characterized by redevelopment consisting of enormous and luxurious Miami Beach style hotels. The commercial aspects do seem to be exploding into this type of operational setting. Early attractions, for example, were small operations, like an existing modest serpentarium; however, the newest attraction is a multi-story Gulfarium (Gulf World). Everything appears to be shifting to another gear--a much larger and faster gear. Shops and snack stands are being replaced with big stores, shopping centers and big restaurants. The manager of a two level motel had this to say of his neighbor, a large modern Miami Beach style hotel (even in name--Fountainbleau):

> "It's a fine motel, but it was built 5 years before its time. It actually is a seaside hotel and the people don't want that kind of a place. Families don't like elevators, and they have no ground level rooms. They seldom rent many of their units."[38]

Yet the wisdom of this design may become apparent in about five years. Almost all new motels are large multi-level hotels. The Ambassador Motel, for example, newly

constructed in the summer of 1970, was built from income of old cottages across the road. As the cottage phase draws to a close, the motel phase replaces it, but it would appear that a second motel phase or a hotel phase now may be in the financing and development stage.

The Grayton Beach Sector has had a much slower development history, and, as indicated earlier in this part of the report, has lagged considerably behind the Panama City Sector. Post-war access to the beach fringe in the Grayton Beach area was limited to spurs leading from the interior located US 98 to Seagrove Beach, Blue Mountain Beach and Dune Allen Beach. In the immediate vicinity of each of these cottage areas sand trails led, in places, a short piece along the approximate routes of State Road 30A. It was not until 1960 that 30A was built along the beach from Phillips Inlet to Eastern Lake, connecting with the Seagrove spur off 395. This opened up over five miles of beach for private development where today scattered cottages exist. Long accessible from the Grayton Beach road (283) only by jeep and foot trail, the property that today is Grayton Beach State Park was linked by a paved road from 283 in 1967. Before being made into a park, the land was used only by local people for hunting, fishing for red fish (Sciaenops ocellata), and crabbing.[39] The last link in the beach road (30A) was

completed in 1969 and involved connecting Grayton Beach with Seagrove Beach via a bridge over Western Lake (at the park).

Expansion of cottage development continues outward from the old pre-war cottage areas once located at the end of beach spurs. Today newly platted areas are being opened for cottage building and it does not involve a great deal of predictive optimism to conclude that this entire strip of 30A is destined for cottage development. West of Blue Mountain Beach is located the newest and most elaborate visitor complex in the Grayton Sector. Blue Gulf Resort, presently with 50 three bedroom houses, a motel with large pool, restaurant, tennis courts and playground, is still being developed and has plans that eventually will involve a huge complex including even a marina and shopping center. The indication is that this coastal fringe may have in store for itself a development somewhat similar to that of the Panama City Sector.

The area west of the operational study area called locally Silver Beach (located west of where US 98 is aligned close to the beach at Miramar) began its build-up around 1955. Yet before 1960 there only existed two or three motels near Destin (Friendship Inn was one of the earliest). All of the locally large motels are of the recent period (for example, The Sands and Holiday Inn).[40]

In recapitulation, 1970 found a typically dynamic situation in this part of the "Growth Coast." The beach fringe of Panama City, long accessible to travelers, appears at first glance to be a highway strip development that is a result of a collectively haphazard development. Its cluttered, disorganized, internally contrasting scene first bombards the senses as would an artist's collage depicting a commercial highway slum; however, reflection and study yields an appreciation for this example of a resort area built around a local natural resource advantage. The apparent disorder, disarray, and contrast is real and is a product of its current dynamic state. As the region grows, as Panama City continues to diversify and grow into a progressive industrial port (presently with paper, oil, fishing, and chemical industries), and as the resort complex continues to grow, there will be increasing problems and changes in this human-natural resource interface.

Recreation Land Use--1970

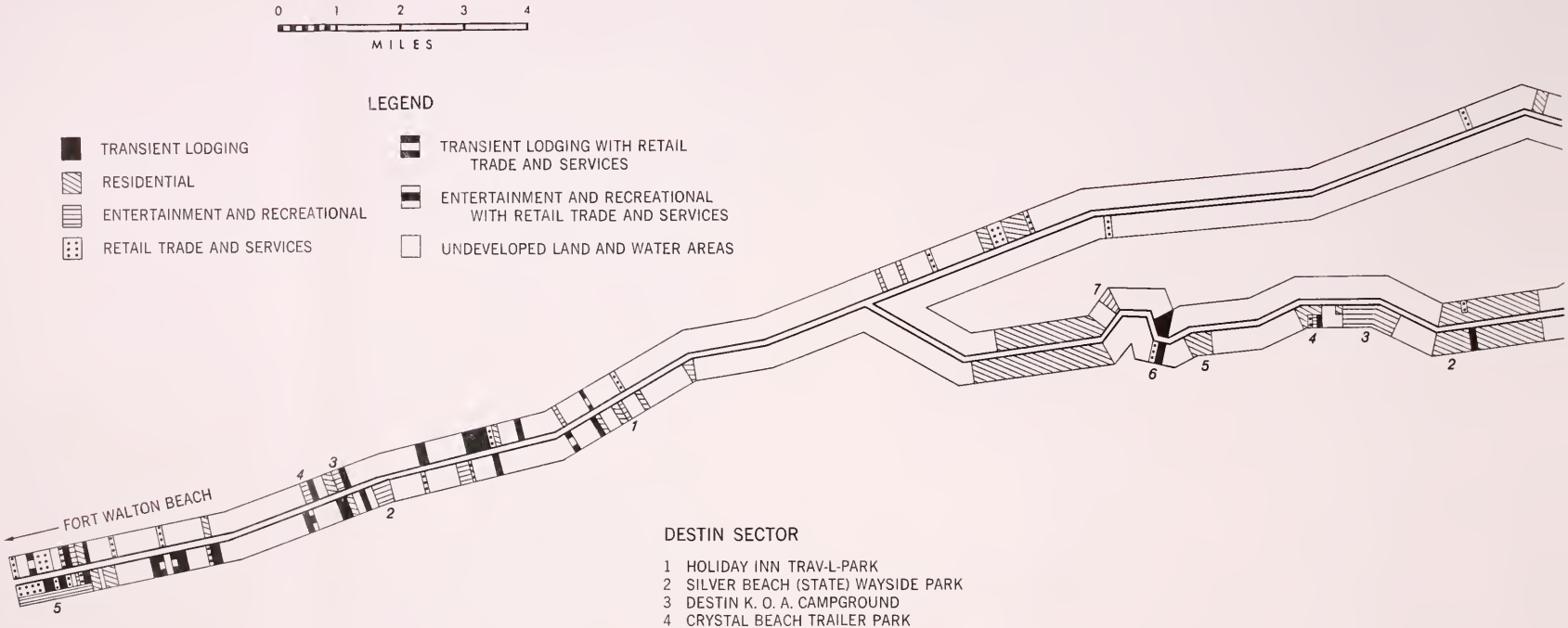
Detailed land use mapping was undertaken in order to expand descriptively on the extent and fringe character of the study area and to demonstrate the spatial discontinuity of land development by showing zones of nonrecreation oriented development and land used for tourism and recreation service.

Figure 8 provides a graphic description of locations of selected classes of land use between Destin's East Pass bridge, over the mouth of Choctawhatchee Bay, and Hathaway bridge, the main access point to the Panama City beaches from across St. Andrew Bay. As previously noted, the zone of recreation oriented land use occupies only a narrow coast fringe. With few exceptions the developed land lies adjacent to the area's principal coastal highway artery US 98 (state route 30) or state route 30A (See Figure 7). Rather than comprehensive areal land use mapping, a coastal highway traverse was made along the two earlier mentioned routes.[41] For convenience of map analysis and scale, parallel tertiaries and spurs were consolidated into arterial representation.

Land Use Classification

The legend in Figure 8 utilizes a specialized classification scheme that is in part a modification of applicable parts in the federal Standard Land Use Coding Manual.[42] Residential lands are for simplicity classed as either transient lodging or residential. The first group is composed of motels, apartments, cabins, cottages, houses, and duplexes that by visible evidence are used commercially in provision of temporary lodging for visitors to the area. The

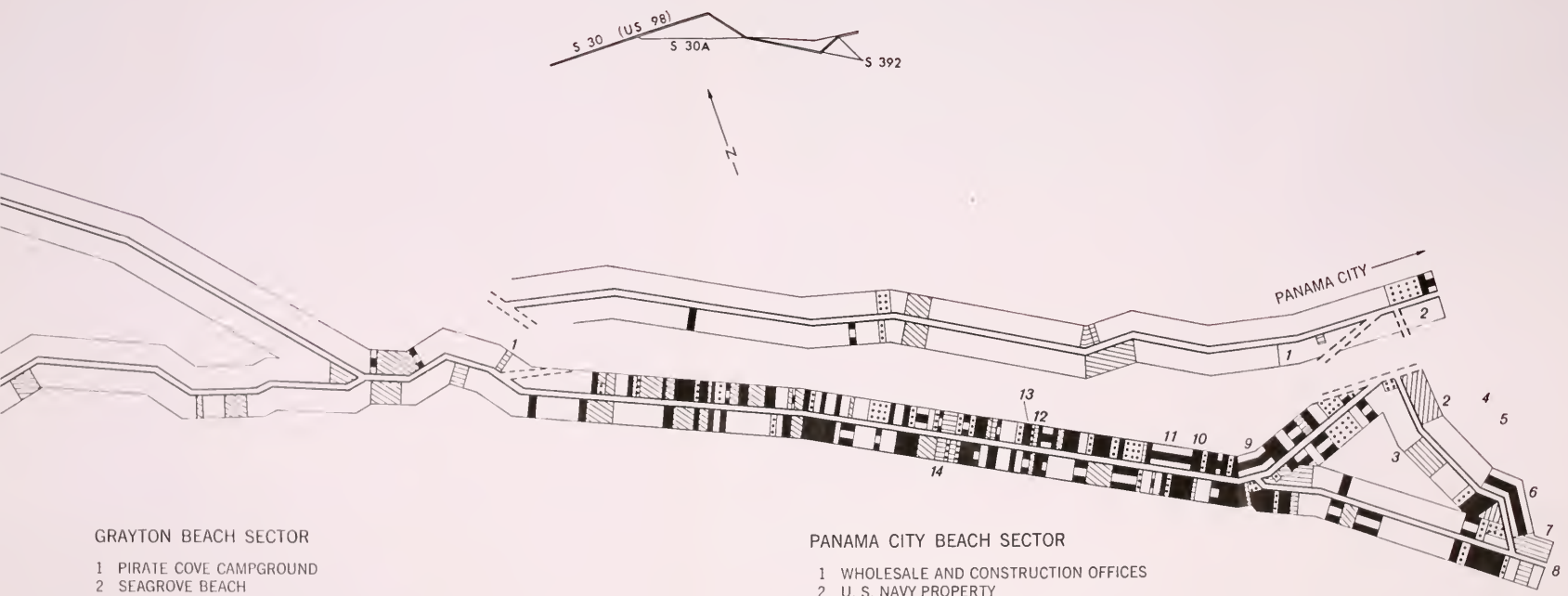
LAND USE: A COASTAL HIGHWAY TRAVERSE



DESTIN SECTOR

1 HOLIDAY INN TRAV-L-PARK
2 SILVER BEACH (STATE) WAYSIDE PARK
3 DESTIN K. O. A. CAMPGROUND
4 CRYSTAL BEACH TRAILER PARK
5 DESTIN FISHING PIERS

SOURCE: Mapped by author, 1970



GRAYTON BEACH SECTOR

1 PIRATE COVE CAMPGROUND
2 SEAGROVE BEACH
3 **GRAYTON BEACH STATE PARK**
4 GRAYTON BEACH
5 BLUE MOUNTAIN BEACH
6 BLUE GULF RESORT
7 GULF HILLS TRAILER PARK

PANAMA CITY BEACH SECTOR

1 WHOLESALE AND CONSTRUCTION OFFICES
2 U. S. NAVY PROPERTY
3 K. O. A. CAMPGROUND
4 MAGNOLIA BEACH CAMPGROUND
5 ALLIGATOR POINT CAMPGROUND
6 MARINA COMPLEX
7 VENTURE OUT TRAVEL TRAILER RESORT
8 **ST. ANDREWS STATE PARK**
9 LONG BEACH AMUSEMENT PARK
10 BEACH CAMPGROUND
11 MIRACLE STRIP AMUSEMENT PARK
12 SEAGULL TRAILER PARK AND CAMPGROUND
13 REID'S COURT AND TRAILER PARK
14 STATE WAYSIDE PARK

Figure 8

remainder category termed residential is composed of land having non-commercial, permanent and seasonal or other leisure time, single family dwellings. It may be presumed that some of these structures will be rented occasionally to friends or others, but they are primarily for single family or other exclusive use.

Entertainment and recreational is a wide ranging land use grouping, and includes both commercial and public and private nonprofit facilities. The following is representative of the types of establishments, facilities, and land use in general within this category: amusements, arcades, dance halls, recreation halls, amusement parks, mechanical carnival rides, skill games, gambling games, miniature golf, driving ranges, golf courses, speed boat rides, helicopter rides, dune buggy or motorcycle rentals, outdoor theatrical presentations, marine life shows and aquaria, serpentaria, private boy camps, family campgrounds, public roadside day-use parks, fishing piers.

Retail trade and services is equally broad and comprehensive. It includes commercial establishments that clearly serve primarily the beach visitors and those that serve the seasonal local permanent population as well. Included are those developed with the following typical establishments: gift shops, shell shops, souvenir stands, camera

supply shops, sportswear shops, variety stores, groceries or supermarkets, beach supply general stores, bait and tackle shops, ice houses, beach supply rental shops, automotive service stations (seldom with mechanics, only gasoline pumpers), drug stores, visitor information centers, eating places (restaurants, coffee shops, cafeterias, short order and snack stands), drink places (taverns, lounges), and liquor stores.

Since the mapping unit selected was one-tenth mile along the arterial traverse and because parts of the traverse included relatively more densely spaced, intensively developed areas, two multiple use groupings were necessary. In many places a land-use type was set back from the highway with differing uses made of the immediate frontage zone. In some places a number of small enterprises of different classification were found to occupy a single one-tenth mile roadside unit. Therefore, the map shows places of retail trade and services combined with transient lodging or entertainment and recreational uses.

In a number of places open space existed which was void of buildings or structures other than occasional signs. Thus the land class undeveloped land and water areas was needed. Many sub-types of land exist within this grouping and the following serves to exemplify: unmodified beach and

duneland, leveled dunes, interdunal scrub, marshland, swamp, lakes, natural pine forest, pine and oak scrub on cleared forest land, cleared and platted residential subdivision or cottage areas and a few sites with developments under various stages of construction.

Interpretations

Several land use features are evident just by looking at the land use traverse and some may be less obvious. A few generalizations will help to visualize the spatial and functional structure of the area.

The most easily observed land use phenomenon is the polarized development along this traverse. By looking at all developed land categories it will be seen that there are in the west and east high density sectors of land use. Undeveloped lands are least common on the ends of the traverse and tend to be more common with movement toward the middle of the traverse where again a certain low intensity development is found. Partly on the basis of this observation the traverse has been rather loosely divided into development sectors. As was earlier indicated the Destin Sector is in some regards not functionally related to the eastern sectors focused on Grayton Beach and Panama City Beach. Furthermore, the western limit of the operational

study area, which was described as located within an undeveloped transition zone of forest between Grayton Beach and Destin, can more easily be conceptualized by examining the double transition joined by an expanse of undeveloped land near the route junction at the west end of the Grayton Beach Sector.

While the preceding comments concerned east-west arrangements of developed land, a second observation relates to the landward extent of the developed area and its fringe nature.

It will be seen that, except for the Destin sector, there is a beach route and what is locally called the "back-beach" route which vary between state and federal maintenance. In both instances the back-beach route has an obvious comparative or relative absence of developed land while its parallel beach road has been developed. This contract is further enhanced when it is realized that the back-beach routes are by comparison fast traffic movement, through routes, which have development only incidentally in relation to the recreation service areas along the beach route.

For example, in the Grayton Beach Sector all four of the service-classed land parcels are very small independent gasoline-garage service stations or gasoline sales with small groceries. The largest concentration of nonforest

land use in this sector is a small community (Santa Rosa Beach) with a grocery, gas station, laundry, post office, and a small real estate branch office. Interviews with business proprietors indicated that though their business did fluctuate with the seasonal movement of beach visitors, they existed mainly on local and highway patronage.[43] The garages were at any time more likely to have a logging truck than a private passenger vehicle parked by them.

State route 30A in the Panama City Beach Sector was built primarily as a fast by-pass to the zone of congested traffic along the beach fringe federal highway. Any mid-summer week night traveler along this strip would find driving a 10 to 15 mile per hour experience. Weekend traffic in the vicinity of the amusement parks is marked by car length advances with waiting periods between. In the worst traffic areas pedestrians strolling at roadside average far greater speeds than automobiles.[44]

Roadside development, where present, along this sector of the back-beach road is primarily residential and typical of suburban fringe expansion around most cities. In addition, looking more toward Panama City than to the beaches are the scattered wholesale offices, warehouses, garages and construction offices that have recently been built near the Hathaway Bridge exit from the beaches.

Thus, clearly the developed beach fringe exists. Only one functional motel exists along the entire length of the back-beach route and development is functionally oriented locally or away from the beaches. The wide expanses of undeveloped land and water areas are perhaps the most characteristic lands behind the beach fringe.

Secondary Study Sites--Private Campgrounds

With a previously identified visitor study focus on campers, particularly those selecting Grayton Beach and St. Andrews State Parks, it was apparent that a second set of campground interview locations was necessary. In order to have a representative sample of study area campers who stayed outside of the primary study focus parks the selection was made to include as many individual campgrounds as possible and, therefore, also to sample visitors from a broad array of camp types.

One sampling objective was to include all possible types of camping visitors to the operational study area. It was ascertained that on occasional weekends Grayton Beach State Park found it necessary to turn away would-be campers when its campground became fully registered with earlier arriving visitors. St. Andrews, long a popular park, also had almost daily camper overflow from its gates.

The overflow visitor either left the area or, as most often appeared the case, he selected a nearby commercial private campground. Add to the number of overflow campers those who for some reason habitually prefer private camps, those unmarried campers under age 21, those with pets that are not allowed in state park campgrounds, and those deciding upon arrival at a park that it was not suited to their needs, and there is an obvious group of campers, potentially quite diverse, who would not be included in a sample drawn only from state parks.

The area's array of private campgrounds is quite diverse in many regards and ranges in development from shoestring operations to a million-dollar travel trailer resort complex. The approximate locations and settings of the 12 area private campgrounds are shown in Figure 8.

Grayton Beach area campgrounds

Excluded from consideration were the two large family campgrounds and one small trailer court in the Destin Sector: Holiday Inn's Trav-L-Park, Destin K.O.A. Campground, and Crystal Beach Trailer Park. By interview information these were determined to be outside overflow influence by camping visitors to Grayton Beach. Furthermore, by name, activity orientation, and location these were determined to be within the Destin service area.

The only campground west of Grayton Beach State Park within the operational study area was a shoestring operation named Gulf Hills Trailer Park. Offering meager space for fewer than ten camping trailers and almost totally lacking in facilities, this camp was virtually unused and was not included in the survey.

The only other campground in the Grayton Beach Sector lay in the sector transition zone about midway between Grayton and St. Andrews parks and was selected for visitor sampling. Pirate Cove Campground is a modest, family developed and managed, roadside family camp on the shore of 500-acre plus Powell Lake near its bar-blocked mouth at Phillips Inlet.

Under large shading pines and interspersed with occasional shrubs are part of the 35 sites with water, electricity and picnic tables in a somewhat random, informal layout. An eight feet deep canal allows boats to be brought to the rear of a number of unshaded sites located at lakeside. A few sites are located in seclusion amid a thicket of trees and shrubs. Centrally located is a simple bath house with showers and restroom facilities. An old two-level building houses a modest camp store selling a few essentials and novelties. A rental sailboat is available and there is free access to adjoining property

where bait and boating equipment are available at a fishing camp. Sea trout (Cynoscion nebulosis), striped bass (Roccus sakafilis), mullet (Magil cephalus), and other fish are caught in the lake.

St. Andrews area campgrounds

All other private campgrounds in the study area may approximately be considered to lie within the camping overflow area around St. Andrews State Park, or, in Figure 8, within the Panama City Beach Sector.

None of these camps is located directly on Gulf beachfront property, though three camps are located on US 98 and are across the street from the beach. Two of these locations have only secondary interest in campers as evidenced by their names: Reid's Court and Trailer Park, and Seagull Trailer Park and Campground. In both cases interviewing permission was unobtainable from the management, for fear of violation of guest privacy.

The owner of Reid's offers seasonal lodging to visitors in a number of air conditioned, kitchen equipped apartments and cottages. A number of well established return visitors rent the mobile home spaces seasonally or yearly. In the back of the property in a large unshaded, grassed field space is offered for camping. A shower house, water,

electricity and picnic tables are available at some sites. In addition, there is the added enhancement of a swimming pool.

Seagull also has a camping area located in the rear of a large modern mobile home park. Forty-five sites are arranged in a neat rectangular pattern on a double loop access road. A bath house and playground are located near a swimming pool.

Beach Campground is the third campground on US 98 across from the Gulf beach. Permission was secured to interview here. Located in the heart of the amusement and entertainment section of the strip, this 100-site campground is off the highway behind a shopping center and recreation businesses. One side of the camp is bounded by an adjacent amusement park's roller coaster and its clatter and screams are heard until midnight nightly.

Some sites are equipped with concrete patios, water, electricity and sewerage hook ups for travel trailers (compact mobile homes) and other elaborate camping vehicles. Various combinations of water and electricity hook ups are available in different parts of the campground. A number of sites have shade but the greatest part are in open areas. Two inadequate bathhouses, a pool, small store, and a children playground complete the facility list, with the

exception of a small, little-used pond which is also located on the property. The survey period (1970) was the fifth season this campground was open.

The remaining four area campgrounds are all in fairly close proximity to St. Andrews State Park and all are located near the peninsular triangle east of US 98 formed by state route 392. Visitors to the beaches traveling from Panama City must cross Hathaway Bridge. Just beyond the bridge road signs direct visitors by two routing options to the beaches. Some turn left at the large U.S. Naval Reservation and follow route 392 toward St. Andrews State Park.

Those following this route first pass the K.O.A. Campground, one of the survey locations, on the right. Conveniently located within full view of the road, K.O.A. has among the area's campgrounds, one unique quality of being the only local franchised member of a nationwide chain of family campgrounds--Kampgrounds of America, Incorporated. This 50-site campground has a small swimming pool, camp store, recreation room with game tables etc., laundromat, and sites complete with water, electricity and sewerage hook ups. Three modern bath houses are spaced among the lightly pine-shaded sites. Though easily accessible by paved road, K.O.A. has neither a view of notable scenery nor a water body for recreation.

Beyond the K.O.A., location signs direct the visitor to turn onto a spur road (392-B) leading to Magnolia Beach Campground (about one and one-half miles off 392) or Alligator Point Campground (approximately three miles off 392). Figure 7 also locates these sites. Both of these campgrounds were included in the visitor survey.

Magnolia, with 18 cottage rental units, offers 75 densely pine and magnolia shaded camp sites, with water and electricity hook ups, picnic tables, grills, a large bath-house, laundromat, and a very complete camp store. Its location on sheltered St. Andrew Bay, which has a gently sloping bottom allows safe family swimming on the camp-ground's sand beach. A combination fishing pier and boat dock by the boat ramp are complemented by rental boats and bait and fishing supplies which are sold at the camp store.

Alligator Point Campground is named for the sand spit jutting from the land on which the camp is located. The facilities are among the newest and most modern of all the area's campgrounds. Three large convenience buildings each with showers, restrooms, laundromat and refreshment vendors serve 165 sites, each with water, electricity, table and grill. A boat house with rental boats and motors supple-ment a modern, well-stocked camp store with gifts and bait and tackle. The 150 pine-wooded acres have a playground and

nature trails. Boating access to the Grand Lagoon is by a boat ramp located near the fishing pier. In addition to fishing and boating in the lagoon, bay or nearby Gulf, there is swimming in the lagoon on the campground's sand spit. A number of sites are at water-side.

The newest, largest and most elaborate campground in the area is adjacent to St. Andrews State Park. (See Figure 6). This roughly 150-acre development lies astride the sand and shell peninsula and includes frontage on both the Gulf and Grand Lagoon. A new type of family campground, Venture Out at Panama City Beach is the newest luxury travel trailer resort built by the Knoxville, Tennessee-based Venture Out in America, Incorporated (which has 48 per cent of its stock held by Gulf Oil Company).

Appealing mostly to the retired or semiretired and the affluent young, the resort functions on the condominium principle. With the exception of a few lots held by the parent company, the campsites, or actually small trailer lots, are owned by individuals who can share in management of their resort facilities. Thus, individuals are always guaranteed available trailer space which is permanently maintained and constantly security patrolled. The management will rent unused lots with half of the rental fee credited to the lot owner.

During its grand opening in June, 1970, lots were made available at prices beginning at 4,500 dollars with a 10 per cent downpayment and 60 months to pay the balance. By late summer the price had risen to 5,000 dollars, and choice individual lots, purchased a few months before the opening for about 4,000 dollars, were then offered at resale prices of 6,000 dollars. Some of those buying for speculation were not being disappointed.

The luxury three-million-dollar project is not an ordinary family campground. Not only does it exclude tents and some other camping equipment types, limiting use to travel trailers and occasional tent trailers, but it is designed with most of the expected features of a country club resort and then some extras. The initially planned 505 lots, partly constructed by summer, 1970, have already been expanded to include a planned development total of 737 travel trailer lots.

All of the compact lots vary between 1800 and 2200 square feet in area and are completely sodded with exceptions of the paved trailer parking spur and the concrete patio (10 by 16 feet) which comes equipped with molded concrete table and benches. Each site has sunken trash cans and hook ups for electricity, water, and sewer (two connections for each of the latter).

Ornamental soft-glow street lights line the paved drives

and the entire property is landscaped with ornamental plantings and exotic steretypic palms (which are practically functionless and give minimum shade in the otherwise open and sun-drenched project). Upon completion there will be four architect-designed, modern, ceramic and terra cotta bathhouses, each costing about 40,000 dollars. Equally modern and expensive structures house offices, maintenance facilities, a laundry, grocery, and lounge.

On leveled sand dunes overlooking the blue Gulf waters is a 150,000-dollar two-story clubhouse which is but part of a 300,000-dollar beach recreation complex which includes a modern-design heated swimming pool that may be the largest in the Panama City area, with extensive patio and a children's pool. Facilities are available for parties, games, bingo, dances and beach cookouts with a snack bar, dance floor, game rooms with billiard, card and ping pong tables, and locker rooms. Organized activities are suitably based here and include exercise classes and instruction in surfing, golf and arts and crafts. A playground, putting greens, courts for badminton and volleyball and night-lighted shuffleboard courts round out the recreation facilities.

The sportsman preferences are also catered to by a huge facility on Grand Lagoon--Treasure Island Marina. Here full services are available with launching lifts and ramps,

complete docking facilities and even dry-dock storage and boat maintenance. Shops sell or rent a complete line of fishing needs and party boats for bottom fishing, scenic excursion boats, and deep-sea charter boats available at a discount to owners of Venture Out lots.

Since this trailer resort was not in operation during the planning stages of this research, it was not selected for inclusion in the survey study. Permission was not secured to interview visitors after the survey period began due to management reluctance.

Recapitulation

In summary, in addition to the bipolar research focus on St. Andrews and Grayton Beach State Parks, five privately owned commercial campgrounds were included for survey purposes. The only significant campground near Grayton Beach, Pirate Cove, was selected. In the St. Andrews area four campgrounds were selected for interviewing visitors: Beach, K.O.A., Magnolia Beach, and Alligator Point. In actuality, these survey locations represent all but two of the then existing campgrounds in the area. It was assumed that since these two campgrounds are primarily mobile home or cottage operations that their camping may be less significant to the survey. However, generalizations on camping in the

study area must be tempered with these omissions.

Study Area Seasonality

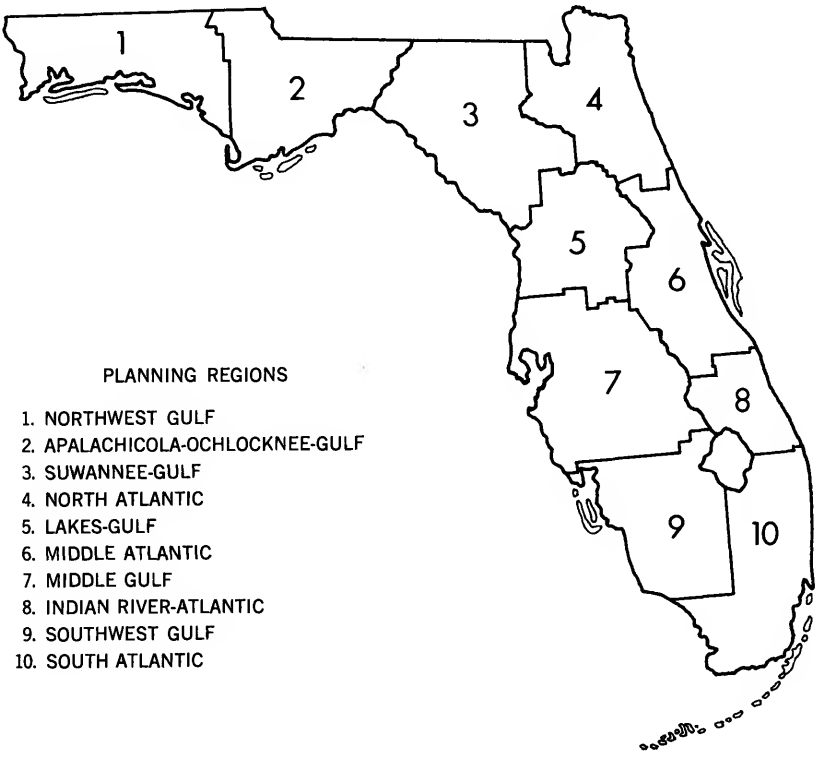
That Florida can be a delightful place to be during the cold winter of the North is more or less common knowledge. That climate varies with place in Florida may be less recognized, but tourist regionalization seems to be at least partly based on this natural phenomenon.

Florida Seasonality Regions

Robert D. Campbell in his dissertation on the geography of recreation in the United States written in 1949 drew up an interesting map of "vacation regions" in which he divided Florida by drawing a line from south of Cedar Key on the Gulf through the Leesburg area to the Daytona Beach area on the Atlantic.[45] He designated the entire peninsula south of this line as a winter vacation region and the coastal fringe north and west of this line as summer vacation regions.

Figure 9 shows the locations of selected Gulf Coast Florida Park planning regions that are compared graphically in Figure 10. It will be seen that Region 1 is the Northwest Coast and that the graphed regions follow the geographical order from north to south along the Gulf coast,

FLORIDA OUTDOOR RECREATION
COMPREHENSIVE PLANNING REGIONS



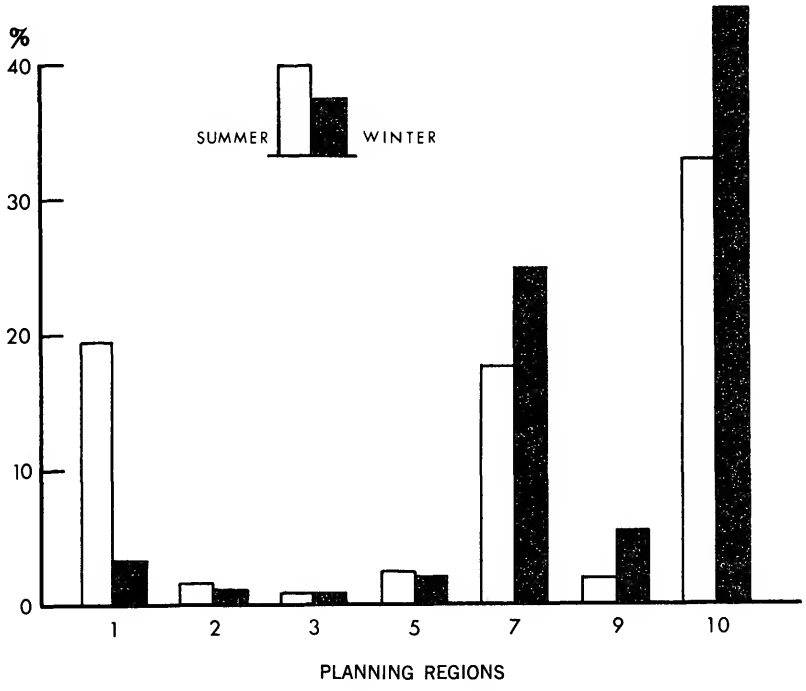
PLANNING REGIONS

1. NORTHWEST GULF
2. APALACHICOLA-OCHLOCKNEE-GULF
3. SUWANNEE-GULF
4. NORTH ATLANTIC
5. LAKES-GULF
6. MIDDLE ATLANTIC
7. MIDDLE GULF
8. INDIAN RIVER-ATLANTIC
9. SOUTHWEST GULF
10. SOUTH ATLANTIC

Source: State of Florida, Outdoor Recreation in Florida (Tallahassee: Division of Recreation and Parks, 1970), p. 133.

Figure 9

PERCENTAGE DISTRIBUTION OF TOURISTS WHO PLANNED TO ENGAGE IN OUTDOOR RECREATION IN FLORIDA DURING THE SUMMER AND WINTER SEASONS, 1964 - 65 — BY PLANNING REGION OF DESTINATION



Source: Adapted from State of Florida, Outdoor Recreation in Florida (Tallahassee: Division of Recreation and Parks, 1970), p. 157.

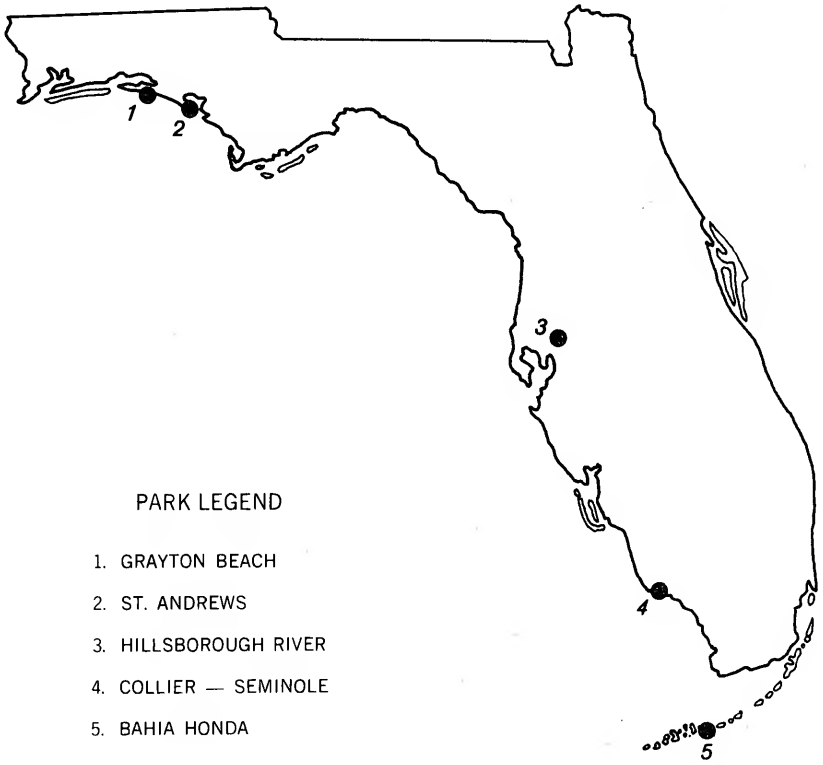
Figure 10

ending in Region 10 which is the Everglades-Miami-Ft. Lauderdale tip. Though summer tourism is also present, note that winter tourism predominates from Region 7 (the Tampa Bay area) southward and agrees in part with Campbell. The difference between these data and Campbell's is based on growth of summer tourism in southern Florida since 1949 now causing the southern part to have a winter-summer classification. The heavy emphasis on summer use of the Northwest Coast (Region 1) quite dominates this graph.

Gulf Coast Camping Seasonality

Since seasonality of camping visits may not coincide with regional differences between general recreation-seeking tourists, a comparison was made between selected coastal parks (located on Figure 11) in the summer vacation area (parks 1 and 2) and in the winter-summer vacation area (parks 3, 4, and 5). Since previously the two northern parks had been tentatively selected for research focus this comparison served three purposes: (1) It provided a final logical basis for distinguishing the operational study area from the rest of the Gulf coast on the basis of seasonality, (2) It provided a basis for determining the period of field observation and focus and, (3) Additional pertinent background descriptive material for the study area analysis was provided.

SELECTED GULF COASTAL FLORIDA STATE PARK LOCATIONS



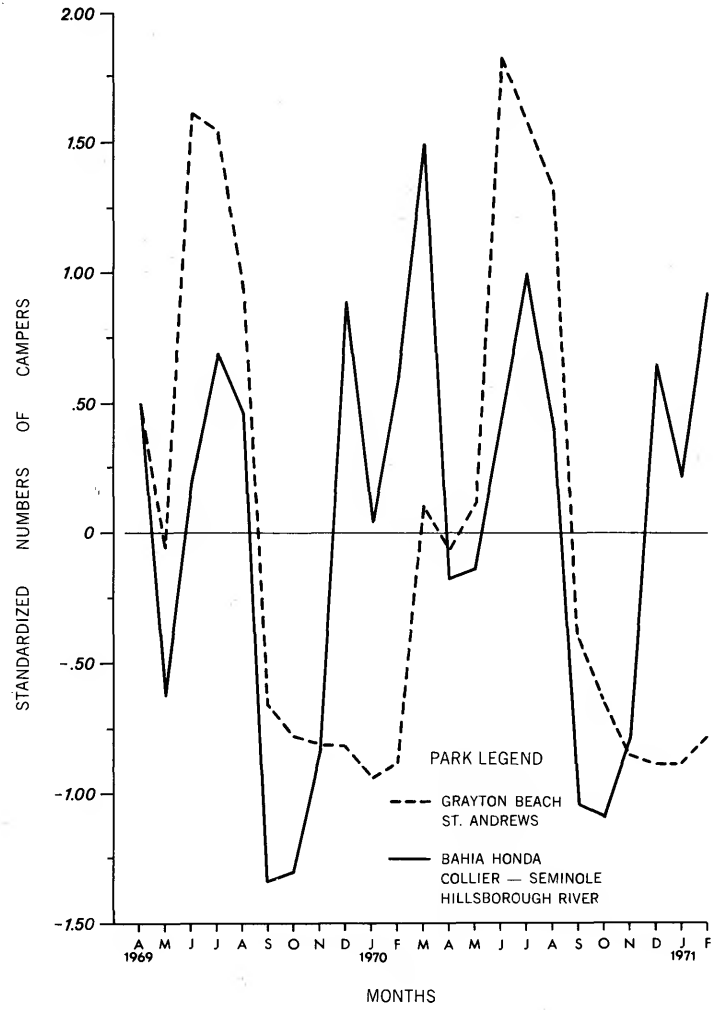
PARK LEGEND

1. GRAYTON BEACH
2. ST. ANDREWS
3. HILLSBOROUGH RIVER
4. COLLIER — SEMINOLE
5. BAHIA HONDA

Figure 11

Utilizing standard techniques for conversion of dissimilar values to comparable standard scores or values,[46] the campground attendance records for the five parks were converted to standardized numbers of campers, and northern and southern group averages were derived for the months shown between 1969 and 1971 on the graph in Figure 12. (Note that this graph also includes the period of the survey--summer 1970--and compares it to the previous year.) Though seasonal proportionality of distribution varies, a look at seasonal change trends is revealing. For the northern or summer parks and for the southern group there is a slump in visits that both experience during September and October. After this period the difference in visitor patterns of seasonality between parks of these two regions is apparent. While the northern pair of parks stays low from November to February in total visitors, camping increases in the southern parks so that they experience a winter recovery and a distinct winter visit season. Both groups respond to an influx of spring vacationers during March, and again both groups drop back in attendance during April and May while awaiting the summer surge of visitors when public schools permit camping families to again take longer vacations. Though both groups experience a June rise in camping visits, the abruptness of the northern set is

GULF COASTAL FLORIDA STATE PARK SEASONAL CAMPING CONTRASTS



Source: State of Florida, Division of Recreation and Parks, park attendance records, April, 1969, through February, 1971.

Figure 12

apparent and contrasts with the slower rise to a month-later peak season among the southern group. Both sets then have a distinct summer season until September when public schools recall pupils. (See Appendix II for additional data.)

Climatic Basis

Apparently the difference between the seasonal camping patterns of the Northwest Coast and the Southwest Coast of Florida is climatic. Carson has described and contrasted the continental northern Florida from the Florida tropics and uses the normal frost line passing from near Tampa Bay northeasterly across the peninsula to the Atlantic Coast as his division between the two Floridas.[47]

A recreation climatic survey for coastal Florida was done by the Outdoor Recreation Resources Review Commission in 1962.[48] The north and south Florida Gulf coastal contrasts in temperatures of the surf partly lie at the root of use differences between these coastal recreation regions. The Northwest Coast has average water temperatures that vary almost ten degrees from the warmer south coast until the last of May when the water temperatures equalize. Between June and August the peak average of about 86 degrees occurs. Southern waters stay warm through September while northern

waters begin to drop more rapidly during September so that by January surf temperatures are again their lowest in both coastal areas, and drop to their low average of between 65 to 67 degrees in the south and 55 to 60 degrees in the north. Air temperatures on the coasts average only a few degrees cooler and follow the same trends.[49]

Research Design

Despite considerable fragmented research in several of the areas that this effort was designed to investigate, it was deemed essential for realization of theoretical or substantive gains potential in this work to approach the problem with a minimal level of preconception. Though certain hypothetical expectations existed, and though some substantive goals were also anticipated, the major premise was to make the study with the least possible researcher-philosophical bias to color and preshape results. As will be pointed out later, there is reason to suspect certain basic philosophical underpinnings that manifest themselves in recreation research.

Awareness of the problem and rationale for selection of a suitable geographic and topical research setting have

been established earlier for the reader. The research design is essentially a statement of methods, the data base or sources, and techniques--for the gathering and analysis of information about recreation. This is not essentially a research into methodology or technique, but instead relies on standard geographic and social science approaches for which there exists a large body of critical literature, both in methodology and its application.

Among various researchers is geography and the social sciences, there is an apparent confusion and overlap between the terms method and technique. For clarity in the following discussion it should be noted that the view of research procedures used here is based on those outlined by Salter.[50]

The general approach of this research is toward an applied format. As stated earlier in listing study objectives, this research is intended in part to provide background information to stimulate thinking in public recreation planning circles. Furthermore, aspects of this research will be useful to understanding the processes involved in future park or campground location and development or redevelopment. That is not to say that larger application to a body of theory is not hoped for, for indeed it is the long range goal of the investigator to help

design and verify such a body of theory.

Methods

Salter had some valuable comments regarding study methods. Selection of a research method for a particular study must be couched not only in the specifics of an investigation, but also in an assessment of underlying general objectives. Salter in his summary to a rather critical chapter on the scientific method in the social sciences concludes:

> If research is seen as a process of inquiry, with problems emanating from, and tested in, experience, with generalizations serving instrumentally to suggest possible causative connections in experience, and with tests dependent upon such relations in the evidence of experience, then many confusions in the traditional views of research methods tend to clear up. The conflicting claims for each procedure find a place in the outline of a full inquiry; the methods themselves fade away. What results is a full concept of modern science; and the techniques or devices previously held as constituting a scientific method turn out each to have a function to perform in the one task of processing evidence in order to arrive at a proposed method of resolving an existing problem in experience.
>
> In this view, an ideal of absolute perfection and absolute certainty gives way to that of intelligent judgment progressively using the results of experience to suggest actions by which intentions and results are as closely united as man can make them in an ever changing world.[51]

Qualitative description

This study, as in social science in general, must often verbally describe the phenomena under observation. Such necessity becomes apparent when the observer faces such a multiplicity of variation in social and spatial factors that would often make quantitative description imprecise to the point of questionable value. Furthermore, the general absence of data and the unknown variation factors for known data predispose this research to an exploratory, data generating study that often seeks what is or aims at describing facts and relations that can be uncovered. Kerlinger asserts that such a method "...is indispensable to scientific advance in the social sciences."[52] He points out, however, that such a heuristic, or after the fact, approach will produce causal statements that are weaker than those produced under other methods, particularly experimental research.[53]

Arnold Henry Guyot, the nation's first full time professor of geography (Princeton, 1854), cautioned geographers against pure description, saying:

> To describe, without rising to the causes or descending to the consequences, is no more science, than merely and simply to relate a fact of which one has been a witness.[54]

Therefore, description has been seasoned with problem oriented causative seasoning as recommended by Guyot.

Quantitative description

This is not to imply that this study is intended to be purely descriptive or that quantities are not dealt with. Where applicable, quantitative description is employed; however, due to the nature of the data and the exploratory characteristics of the study, only essential descriptive statistics are employed, at times with carto-statistical techniques. Throughout, when numerical data are discussed, quantitative description is aimed simply at forming brief summaries or generalizations of several observations.

Case study

Elements of the case study method or that dealing with a detailed examination of a small sample are present, though no attempt is made to delve so intensively that everything that bears on the micro study focus is evaluated. Instead, detailed study is aimed at suggesting lines of future thought or hypotheses for testing in the same locality or in other situations. It should be noted, however, that the selection of only two state parks and related private facilities for observation and visitor sampling does constitute a major reliance on the case method.

The procedural details of this investigation are, as before stated, standard and therefore demand only a few comments. Data collection procedures were necessarily adapted to the kind of data available and analysis procedures were tailored to the limitations of those data which were gathered.

Field survey

Due to the limitations of available data on park users and the absence of most needed data, it became necessary to undertake field generation of primary information. In addition, it was necessary to look to the field situation for gathering and generating secondary information as well. Consequently, the research took on the complexion of an "on-site" recreation visitor study.[55]

Preliminary field work.--During August, 1969, the entire Northwest Coast was examined. A preliminary field inventory was made along every coastal highway or road between Gulf Beach (west of Pensacola Bay) and St. Andrews State Park at Panama City Beach. In addition, US 98 and selected side routes were driven and observed. A highway log, spot vehicle counts, and informal personal interviews were gathered.

On the basis of this preliminary inventory of coastal recreation and land use, a tentative selection of study

parks and the operational study area was made. Visits to the area during the winter of 1970 involved examination of all parks and campgrounds in the area. Additional interviews were secured with key park employees and campground managers among others in the local service industry.

During April final arrangements were made and authorization was given to interview visitors at the private campgrounds in the area. The Division of State Parks at Tallahassee was consulted and permission to survey park visitors was granted.

After deciding that the best approach to gathering data was a personal camper interview, a semi-structured interview schedule was devised that asked in addition to specifics, some standard questions that were left open-ended (to avoid interviewer and question bias) thus allowing some flexibility in data gathering.

Finally, during the week of May 10, 1970, a pretest of the camper interview schedule was made. The test was made in Grayton Beach and St. Andrews State Parks and in two private campgrounds. The revised interview schedule is included in Appendix III.

Survey period.--Since preliminary work had indicated that the area campgrounds were primarily used during the summer, the period of formal interviewing of family

campers was selected to conform with the major summer visitor season, i.e., the period of public school vacations in the anticipated tributary area. It was ascertained that student vacations began between May 25 and June 12; therefore, the survey period was defined as June 8 to September 7, 1970 (Labor Day).[56]

Two state park campgrounds and five area private campgrounds were selected as interview locations with their camping visitors becoming the population basis of a sample of 514 camping groups or parties. The interview locations were rotated to enable all campgrounds to be sampled on all days of the week. Since the schedule required at least one half hour to complete, and because interviewing had to be done in the late afternoon and early evening to avoid camper arrival time (hence origin) bias the daily interview quota was about six parties. Though probability sampling techniques were used to determine quotas and define the sample (for example, a stratified random sample was prescribed), the purpose was for objectivity in observations, and not for drawing a tight statistical sample. Since levels of visitation before the survey were unknown, a proportionate sample could not be drawn. Further details on the sample are found in Appendix IV.

Unstructured personal interviews were also gathered

during the survey period. For example, park and campground operators were queried about things that would make the survey year unusual in any way from past years. Interviews were also taken from time to time with local business men and other knowledgeable people.

In addition, the researcher elected to live with his family during the survey at Grayton Beach State Park as a relatively obscure camper among the subjects of study. This allowed a degree of camper interaction that would have been otherwise obtainable, and to a limited extent, participant-observer techniques were used.

Post survey period.--After the survey period was terminated, additional background interviews and data were collected. Most important at this time was the camper-registration data made available for the preceding year at the two state parks and at all except Magnolia Beach Campground. The laborious process of manually processing and coding the approximately 100 per cent sample (16,731 party visits, after an unknown reduction in total registrations resulting from sorting and summing repeat registrations, a process not done before this study) took four months to complete. In addition, land use mapping was completed during this period.

Additional information sources

The extensive literature survey for the study was based on a large variety of geographical and other sources, including government publications. Libraries consulted were the following: University of Florida (Gainesville), Indiana State University (Terre Haute), Indiana University (Bloomington), and Bradford Woods, Library of the National Camping Association (Bloomington, Indiana).

Visits and other communications yielded valuable unpublished materials from Florida offices. Particularly useful were records, maps, study reports and other information provided by the Florida Department of Transportation, Division of Recreation and Parks, and the Florida Development Commission.

A variety of published and unpublished information was supplementarily used. For example, study area air photographs for 1949 and 1963, various tourist guides and maps, U. S. Coast and Geodetic Survey sheets, and U. S. Geological Survey, Topographic Survey sheets were used.

Data analysis

Analysis techniques must be selected for each particular problem and must reflect the data base. The best technique varies, therefore, with the situation. Coding, tabulating

and summarizing data either verbally, cartographically, or with descriptive statistics is the most dominant process. Specific hypotheses have been tested by comparison of predicted with observed results. Some relationships are examined with regression techniques, but again with functional description as the objective. Comparison with analagous study evidence from the literature is also used in substantiation. The results are a descriptive statement of selected relations between factors in the problem area, some "building block" verification of existing theory, and some hypotheses for testing in further research. The results are essentially suggestive rather than definitive and await further modification or verification from other researchers.

NOTES

1. Diettrich, a noted Florida geographer, once described a peninsular Florida which is separated from a continental Florida along an imagined line drawn from Cedar Key to the St. Marys river. He claimed coastal areas north of this line to resemble "...in every respect...the contiguous parts of Georgia and Alabama...," in contrast to the peninsula. Diettrich also spoke of Florida divisions based on cultural differences, and he claimed northern Florida to be a "Florida of the Old South," as contrasted with his "Urban Peninsula" and "Cracker Central" divisions. Sigismond deR. Diettrich, "Florida's Human Resources," Geographical Review, Vol. 38 (1948), pp. 278-288.

2. A. W. Kuchler, Potential Natural Vegetation of the Conterminous United States, American Geographical Society Special Publication No. 36, map and manual (New York: American Geographical Society, 1964).

3. John C. Davis, General Map of Natural Vegetation of Florida, Circular S-178, Agricultural Experiment Station, University of Florida (Gainesville: University of Florida, 1967); J. R. Beckenbaugh and J. W. Hammett, General Soil Map of Florida, Agricultural Experiment Station, University of Florida and Soil Conservation Service (Gainesville: University of Florida, 1962), p. 24.

4. Mimeographed guide map to John C. Beasley State Park, Ft. Walton Beach, Florida, 1970.

5. Florida Development Commission, Florida Beach Resources (Tallahassee: Florida Development Commission, 1963), p. 1.

6. Public beaches were defined as those backed by public land thus assuring access to water's edge. Ibid.

7. Ibid., pp. 1-3.

8. Ibid., p. 5.

9. Ibid., p. 7.

10. Ibid., p. 5.

11. Ibid., p. 2.

12. Clare A. Gunn, Texas Marine Resources: The Leisure Way, Report of workshop on Texas marine tourism-recreation development (College Station: Texas A & M University, 1970), p. 1.

13. U. S. Bureau of Outdoor Recreation, Islands of America (Washington, D. C.: Government Printing Office, 1970), p. 25.

14. Dune crest Beasley State Park has been in existence since 1959 and yet only has been developed with rest-rooms, showers, picnic tables, shelters, grills and playground equipment.

15. Highway distance from St. Andrews to St. Joseph park is 58 miles, only 10 less than the distance from Grayton Beach to Ft. Pickens.

16. Based on personal interviews during August, 1969, and May, 1970, with resident managers of service stations, motels, shops, etc.

17. The sequence of development of this coastal area is perhaps part of a study of equal importance in another scale of examination. Urban geographers have studied historical evolution of city function and morphology for a number of years. Only relatively recently has attention been paid to resort communities. It may be noted that in New Zealand is an almost identical evolutionary sequence (in a physical geography of remarkable coincidence) presented in Blair Badcock, "Problems Associated with the Tourist and Recreational Development of Ohope," Auckland Student Geographer, Vol. 2 (1967), pp. 41-46.

18. J. Russell Smith, North America (New York: Harcourt, Brace and Co., 1925), p. 274.

19. American Automobile Association, Florida Tour Book, Spring-Summer, 1969 (Washington, D. C.: American Automobile Association, 1969), p. 67.

20. Ann Houpt, "Vermints Once Roamed Where Tourists Now Play," Panama City News-Herald, June 28, 1970.

21. Baynard Kendrick, Florida Trails to Turnpikes: 1914-1964 (Gainesville: University of Florida Press, 1966).

22. Ibid., p. 208.

23. Charles Sweetland, "From Frontier Village to Thriving Small City," Between the Air Force and the Sea (Fort Walton Beach: Chamber of Commerce newspaper, 1969).

24. L. E. Peabody, "Extracts from Report on Florida Traffic Survey," Public Roads, Vol. 16 (1935), pp. 68-72.

25. Personal interview with Mr. Ben Graham, then Vice President of the Bay County Motel and Restaurant Association, Panama City Beach, December 28, 1970.

26. "Grayton Beach Town," Subdivision Plats - Walton County, Florida (Deland, Florida: J. M. Smedley Publisher, Inc., no date), p. 100.

27. Personal interview with Mr. Paul M. Benedict, realtor, Santa Rosa, Florida, August 27, 1970.

28. Ibid.

29. Ibid.

30. Personal interview with Mr. Dick Saltsman, Santa Rosa, Florida, August 27, 1970.

31. Personal interview with an unidentified camper at Grayton Beach State Park who traveled US 98 from Baton Rouge, Louisiana to Gainesville, Florida, regularly since its opening in the Grayton Beach Sector in 1935, August 4, 1970.

32. Graham (See reference 25).

33. Ibid.

34. Ibid.

35. Henry G. Alsberg, The American Guide: The South, The Southwest" (New York: Hastings House, 1949), p. 843.

36. J. H. Paterson, North America, third edition (London: Oxford University Press, 1965), p. 329; P. F. Griffin, R. L. Chatham and R. N. Young, Anglo America: A Systematic and Regional Geography, second edition (Palo Alto, California: Fearon Publishers, 1968).

37. John Fraser Hart, The Southeastern United States (Princeton, New Jersey: Van Nostrand, 1967), p. 85; William H. Morgan, "The Seacoast of North West Florida: A Geographic Appraisal," Ph.D. dissertation, Department of Geography, University of Florida, 1962.

38. Personal interview with Mr. Larry Bradford, Panama City Beach, December 29, 1970.

39. Personal interview with Grayton Park Ranger Strickland, then of retirement age and life resident of the area, September 1, 1970.

40. Unidentified camper (See reference 31).

41. A similar early land use traverse was made by C. C. Colby, "The Railway Traverse as an Aid in Reconnaissance," Annals, Association of American Geographers, Vol. 23 (1933), pp. 157-164. A traverse involves repeated measurement of distance and bearing, i.e., mapping, while transects are primarily journey records. Since unidimensional mapping is the product the term traverse was selected. See P. Alun Jones, Field Work in Geography (London: Longmans, Green and Co., 1968), p. 60; J. E. Archer and T. H. Dalton, Fieldwork in Geography (London: Batsford Ltd., 1968).

42. U. S. Urban Renewal Administration, Standard Land Use Coding Manual, Urban Renewal Administration, Housing and Home Finance Agency and Bureau of Public Roads, Department of Commerce (Washington, D. C.: Government Printing Office, 1965).

43. For additional information on the rural highway service industry see John M. Roberts, R. M. Kozelka, M. L. Kiehl and E. M. Newman, "The Small Highway Business on U. S. 30 in Nebraska," Economic Geography, Vol. 32 (1956), pp. 139-[illegible].

44. An interesting safety hazard may be associated with these slow speeds. The author noticed during the two year field investigation that highway accidents frequently occurred on state route 30A (the "back-beach" road) in the Panama City Beach Sector. After slowly driving along the beach route through the congested amusement area it is possible that drivers experience a speed perception lag when they turn onto the fast traffic bypass. The author experienced this sensation of normal road speed after a period of driving slowly when in fact he was traveling well below that of the traffic flow and was inviting a rear collision or encouraging a head-on collision between an on-coming automobile, and a rapidly moving overtaking and passing automobile. Several times he observed slow moving cars pull out in front of him.

45. Robert D. Campbell, "The Geography of Recreation in the United States" (Ph.D. dissertation, Clark University, 1949), p. 91.

46. N. M. Downie and R. W. Heath, Basic Statistical Methods (New York: Harper & Row, 1959), p. 60; George W. Snedecor and W. G. Cochran, Statistical Methods, sixth edition (Ames, Iowa: Iowa State University Press, 1967), p. 36.

47. Robe B. Carson, "The Florida Tropics," Economic Geography, Vol. 27 (1951), p. 321.

48. U. S. Outdoor Recreation Resources Review Commission, Shoreline Recreation Resources of the United States, Study Report 4 (Washington, D. C.: Government Printing Office, 1962), pp. 56-57.

49. Ibid.

50. For a critique of the basis for the scientific method and its evolution through application in social science see especially Chapter three in Leonard A. Salter, Jr., A Critical Review of Research in Land Economics (Minneapolis: University of Minnesota Press, 1948).

51. Ibid., p. 77.

52. F. N. Kerlinger, Foundations of Behavioral Research (New York: Holt, Rinehart and Winston, 1964), p. 388.

53. Ibid., p. 390.

54. Arnold Henry Guyot, quoted by William Warntz, Geography Now and Then, American Geographical Society, Research Series No. 25 (New York: American Geographical Society, 1964), p. 144.

55. National Academy of Sciences, Outdoor Recreation Research (Washington, D. C.: National Academy of Sciences, 1969), p. 32.

56. Labor Day was selected as the end of the interview period on the basis of comments by several local proprietors that it was traditionally the last day of the visitor season in the area. One local grocer emphasized his agreement on this fact by proclaiming that a person could shoot a cannon in the middle of the busiest beach street and not hit a single person after 5:00 P. M. on Labor Day.

CHAPTER IV

TRIBUTARY AREA: DELIMITATION AND SPATIAL INTERACTION

For an individual participant in outdoor recreation there is much more to the experience than simple involvement in some activity at a recreation location. Clawson, for example, proposes examination of the entire recreation experience including the phases of planning and anticipation, travel to the site, experience on site, return travel, and evaluation and recollection of the total experience.[1] This chapter deals primarily with the transportation link between visitor origin and destination and focuses on travel routing and flow in terms of gross movements within the camping visitor tributary area centering on the Florida Northwest Coast recreation resource study area.

Theory Alternatives

A logical position for analysis of market or tributary area interaction is from the standpoint of central place theory as a general approach to understanding tertiary

economic spatial activity. Because private outdoor recreation clearly falls within the tertiary or service and distributive sector of the economy, and since public outdoor recreation is its essentially nonmarket priced counterpart there is postulated an analagous application potential of central place theory to outdoor recreation processes.[2]

Theory of the Periphery

Walter Christaller never claimed his urban, commercial-service oriented concept of central place interaction to be applicable to all things and a location theory to end all theories. In fact, his interest in tourism and outdoor recreation activity in general led him to propose in 1963 what might be called a theory of the periphery. In Christaller's own words:

> There is also a branch of the economy that avoids central places and the agglomerations of industry. This is tourism. Tourism is drawn to the periphery of settlement districts as it searches for a position on the highest mountains, in the most lonely woods, along the remotest beaches.[3]

Thus, with the city or urban core region as a visitor source Christaller proposed an outward diffusion of urban based searching for a temporary substitute environment.

Though not expressed as a verification of such a

theory of the periphery, several researchers have focused on the relations between the urban core and its regional recreation hinterland (See Appendix I). The evidence is clearly indicative of regularity in peripheral tendency. An interesting observation is that apparently no one has followed the major concept of peripheral migration tendency that Christaller visualized the vacation movement of a population to the periphery of its land-mass, i.e., to the coast. Though only implied by Christaller, the real thrust of a peripheral movement tendency is toward that perceived as <u>functional</u> periphery, and will have a relative settlement-land use basis for definition.

The social significance of such a theory can be seen if the philosophical concept of outdoor recreation as a physical and psychological health renewing process is combined within the analagous logic of post-Darwinian organismic regional interaction.[4] On this basis the United States could be conceived as a network or huge system of interacting urban regions, defined by their metropolitan "fields" or surrounding zones of commercial and other influence.[5] Open space, defined as either regional influence overlap or depopulated neutral influence areas, may be considered as interstitial, and may have a similarly important function analagous to the intercellular or

interstitial fluid spaces surrounding and separating human cells. A cell's vitality is preserved by the process of transportation of nutrients from interstitial fluids through cell membranes and by purifying reverse osmosis of metabolic wastes out of the cell into the interstitium for transport away. There may be an analagous process in urban regions. Mercer may have had this in mind when he mentioned the city and its rural surroundings as existing in a symbiotic relationship.[6] The transport of urban conflict and pressure-laden recreationists out of the city and into the interstitial recreational periphery may be associated with a filtering of human psychological waste into the interstitium in the process of re-creation and re-vitalization before return to the urban arena.

Central Place Theory

On the other hand, recreation movement takes on distinctly focal properties and recreation places assume the role of central places.[7] Three types of functional recreation centrality are worth noting: intra-urban recreation central places, cities themselves as central places, and nonurban recreation resource area centrality.

Only one American recreation geographer has made a significant contribution to intra-urban recreation central

place theory. Lisle Mitchell's contributions have focused empirically on urban playgrounds as central places and have attempted to confirm existence of and describe hierarchies, and hinterlands.[8] In 1969 he proposed a framework for a two-part functionally modified classical Von Thunen location theory for testing relationships between recreation areas within a city.[9]

At least one other geographer has dealt with internal urban recreation movement to recreation places. Barnum considered as a minor element of a market center analysis the movement of persons to urban film theaters.[10]

The attention to cities as the focus of recreational travel can take two slightly different perspectives. The resort city is the most studied of urban recreation locations and as a topic has been in the geographic literature for many years. However, only a few researchers have described the resort as a central place and focus for travel within a market region. The ordinary nonresort city also functions as a recreation attraction that draws visitors from surrounding areas in a reversal to the peripheral process theorized by Christaller. The distinction is that this movement often is for entertainment services offered within the city and is not strictly within the outdoor recreation scope of this study.

Barnum's work on German cities includes some work on this central place recreation concept.[11]

Finally, of most importance to the study at hand, it can be shown that nonurban, resource-based recreation areas and parks function, individually and in groupings as recreation complexes, as seasonal central points. This fact was noted even by Christaller in his peripheral movement discussion.[12] As central places, one would expect them to exhibit a spatial functional hierarchy with some hierarchy-level relative differences in threshold population (minimum number of users to economically justify facility existence) within market or tributary areas, and some numerical relationship between numbers of recreation areas of various sizes or functional rank in the hierarchy. Furthermore, there should be a relationship between comparative level of use and factors of spatial concentration of recreation services or opportunity (forms of agglomeration economy, etc.), transportation factors (with a focus on cost), and competitive location.

A Merged Concept of Functional Organization

The economist, Edwin von Boventer, has proposed that Christaller's originally urban focused central place theory and Lösch's theory of the periphery are both viable

concepts and are not mutually exclusive as implied by Christaller.[13] Instead, seeing them both as part of the same regionalization process, von Boventer demonstrates that the process of centralizing or dispersal is one of balance between agglomeration economics and the tendency in all spheres to maximize distance from competition.

Probably von Boventer is essentially correct, for the application to a specific location of a central place or a peripheral theory, in most general terms, for an explanation of its relationship to other places is a problem that depends on scale of classification. In 1957 Philbrick conceptualized areal spatial organization as a problem essentially of scale.[14] At one scale of observation a given location could be seen as a focus of surrounding homogeneous and parallel-linked occupance units and hence would have nodal connections with each of these units. By changing the scale of observation, the focal location is perceived as one of a series of parallel linked locations and can be seen within its collectivity as part of a homogeneous region having common focal ties along with other units at this level to a new focal location. Therefore, a theory of peripheral movement or diffusion from an urban central place (a focal location) involves recreation travel to a number of urban fringe (or more distantly) located

recreation areas having a similar function, parallel interconnections, and forming a topically homogeneous region or recreation hinterland. Yet when each park or recreation area is considered separately within its area, it becomes, by scale shift, a nodal central place functioning as a focal point for its surroundings. Consequently, a theory of the periphery is an urban regional-scale observation with urban focality. A recreation theory of rural central places is simply a product of a scale shift and involves recreation location focality. Both theories deal with the same regional interaction system components.

This chapter approaches recreation interaction within a portion of the nation's eastern spatial recreation subsystem. The approach of observation and analysis is from the scale of recreation area nodality. The operational study area is used as a focus for recreation travel and interaction within its tributary or market area.

Application of Central Place Theory

If the assumption is made that recreation locations can be thought of as being analagous to other central place forms, i.e., cities and other retailing-service locations, then an internal differentiation must be found with which to contrast recreation central places and form the basis of their

spatial separation, market area differences, and hierarchy of places.

A Recreation Place Hierarchy

Cities are contrasted on the basis of their functional complexity or the number of kinds of retail and service establishments they offer.[15] Shopping centers are similarly ranked. The service complexity of a park might analagously be based on the number of kinds of recreation activities existing as participation potentials at that location. Park hierarchy should therefore be related to the number of participation opportunities at different parks.

Cities and retail centers, on the other hand, can be classed by the order of the economic activities available within them. The higher the order of business, the greater its threshold or condition of profitable establishment. The notion is simply that goods or services of frequent purchase require a smaller base population for support of a profitable establishment offering that good or service. Less frequently purchased, higher-order goods, must have a larger market area population to support an establishment offering that good. Thus, the small town, a higher hierarchy-ranked central place, will be characterized by higher-order services and goods as well as a larger number of kinds of establishments

than one of the villages within the town's market area.

Parks and other recreation focal locations fall within a hierarchy that is based on types or orders of services. Each rank has a different average functional complexity based on number of different activity potentials and the magnitude of the site potentials. The simplest hierarchy of recreation locations has been proposed by Clawson who classes recreation areas as "user oriented" (urban and near urban, short travel distance, high density land use), "intermediate" (larger, urban fringe and beyond, longer travel distances, less intensive use) and "resource based" (usually rural, may require a major trip, low use density).[16]

The market area of a central place, which varies with the range of its highest order establishment, is essentially the area marked by the maximum distance that consumers will travel from places surrounding the central place to purchase in that center. Given a homogeneous population density throughout a region the result would be larger market areas surrounding each higher ranking group of central places in the functional complexity hierarchy. Parks also have variously sized market areas based on distances that people are willing to travel to participate in activities at different ranks of parks. City parks have the shortest maximum distance that people are willing to travel to

participate in a park's activities and hence the smallest market area. State parks, which are generally in the "intermediate" ranked group, have intermediate-sized market areas compared to the small local areas of city parks and the nation-wide market areas of major "resource based" recreation locations such as Grand Canyon National Park.

The Composite Tributary Area

The study area is a diverse complex of recreation facilities, with a wide array of recreation oriented business and service establishments, and an equally wide array of potential activities in which visitors can participate. Though a single market area for this linear complex could be demonstrated by a process of cartographic generalization, the value or purpose of such a composite representation would be questionable.

Again, an urban analogy is the basis for this assertion. An urban central place or city is a focal point for a theoretical continuous distribution of second points from which or toward which interaction with the city focus ensues.[17] Such a theoretical urban interaction field, or simply urban field, has been empirically demonstrated many times and labeled a city's umland, tributary area, service area, market area, hinterland, and sphere of influence.[18]

The tributary or service area of a city or urban complex is therefore composed of the surrounding area that is served in some way or in a multiplicity of ways by that city or complex. The tributary area of a park or recreation complex might similarly be defined. The tributary area of a city is actually a composite of many variously overlapping individual service areas or market areas of several different functional activities centered on the city. It has been shown in many studies by geographers, sociologists, land economists, planners and others that there is generally a lack of coincidence of the boundaries or limits of these service areas.[19]

The tributary area of a city is made up of variably overlapping areas where specific functional components of the city apply. The tributary area of a park, a complex of parks, or an entire recreation service complex (such as is found in the study area) also is made up of service areas which may vary considerably in areal extent (and shape).

For example, the simplest of recreation locations, a single isolated park with no surrounding allied service developments, might be the basis for a number of tributary areas. Thus specific service areas might exist that are composed individually of bounded origin locations of persons

who visit the park to swim or fish or boat, etc. Composites could be identified on the basis of multi-purpose trips when participation in more than one activity forms the trip basis. Obviously, such studies as this could be quite complex and might well involve differentiation beyond the value of information returned.

Another basis for differentiating individual functions of a park and hence its separate service areas is by analysis of period of visit. For example, a park may serve a tributary area that may be defined as the maximum outermost limits of time or distance that people will travel to visit the park for a few hours of on-site recreation only to return home again that day, i.e., a day-trip or a day use visit. A much larger visitor tributary area would logically be associated with those having the time to visit the park for longer periods than part of a day. These visitors would take lodging in or near the park and would come from a maximum distance of much greater range than the day visitor group. Hence park service areas might be defined for day visitors, weekend visitors and vacation period visitors or some other similar visit period classification.[20] For the activity-defined and visit period-defined, there may be some or none of the service areas surrounding a park that spatially coincide.

Therefore a word of caution is needed for interpretation of the following visitor distribution maps and in contemplating their analysis and discussion. This research is concerned with the study area's total resort-recreation complex only as it relates to enhancement of the recreation facility and service base that partially attracts family camping visitors to the area for overnight or longer visits in area private and public campgrounds. Consequently, the following maps depict facets of the camping market or tributary area focused on the Greater Panama City recreation complex. Therefore, though the area's total zone of visitor influence or recreation attraction may be, and probably is, quite comparable to its tributary area for the camping function there is no evidence of such comparability. Should the gross camping service area analysis results be assumed spatially comparable to other service sectors of the study area or to specific components within the camping sector the possibility of tributary area dissimilarity must be kept in mind.

Tributary Area Zonation

A tributary area oriented around a central place can be conceptualized from more than one spatial reference. For example, the maximum observed limit that people will

travel to visit a park or recreation complex forms a maximum or temporal approximation of the absolute market or tributary area.[21] Such a service range or maximum radius based concept of a recreation tributary area can be balanced by optimal concepts of a market area. Optimal refers to a best fit population support area that from the free enterprise standpoint would afford establishment of a commercial recreation location and be associated with a predicted profit margin of desirable size. Optimal market area for a public recreation location might involve determinents based on any number of public management-service goals. A third market area reference is functional and based on spatially competitive relationships.

Berry has described internal zonation of functional trading areas of retail stores as primary, secondary, and fringe zonated.[22] He says that the primary market area or zone is that area that provides 60 to 70 per cent of the trade at the store and is the store's area of greatest market penetration or where its share of total business generated is greater than its competitors. The secondary area accounts normally for 20 to 30 per cent of the store's trade and the balance is taken up in the highly competitive fringe area. Draine has used similar terms to describe competitive zones around Chicago for rail freight shipping.[23]

He described a very successful competition zone (located not at Chicago but on Atlantic and Gulf coasts), a Chicago hinterland zone of time-variable freight rate advantage, a noncompetitive hinterland, and a periphery with much nonrate competition. A number of others simply have used a mean field instead of a practically unmeasureable maximum or potential field.[24]

Consequently, this research has anticipated different types of tributary areas. Attempts have been made to show cartographically both absolute and competitive functional market areas for the specific camping function of the study area.

In the evolution of the proposal for this research a number of specific problems were uncovered. Some of these were formed into basic working hypotheses, based partly on the outdoor recreation literature, and partly on postulated analagous principles of central place and marketing theory. The tentative nature of the background of expectations, coupled with the diversity of unknown factors in the data gathering process produced a less than optimum situation for control of variables, rigid definition, and testing. Consequently, the explorative process made necessary has not resulted in definitive answers or solutions to problems, but instead it has formed a more sound basis for continued

research on these problems and has proposed a refined set of partially verified and augmented hypotheses.

The topics of working hypotheses evaluated in this chapter pertain to intra-regional recreation migration or market area interaction and are as follows: beach resource homogeneity (distance minimizing hypothesis and physical resource noncomparative hypothesis), a resource specificity hypothesis, and interaction hypotheses (for distance and time dimensions). Before discussing these hypotheses, however, a discussion of maximum market area characteristics yields worthwhile base information.

Market Area Overview

To a large extent the entire nation and part of Canada is the maximum market or tributary area for the study area. Over the period of the sample year, representatives of all states found their way to the area's campgrounds. Figure 13 shows graphically the variation in state proportion of visitor origins and demonstrates the complete coverage of the conterminous United States by the area's camping hinterland over the period of a year.[25] All states had at least three parties to visit the area.

Since the study period extended only through the heart of the area's camping visitor season, the data in Figure 13

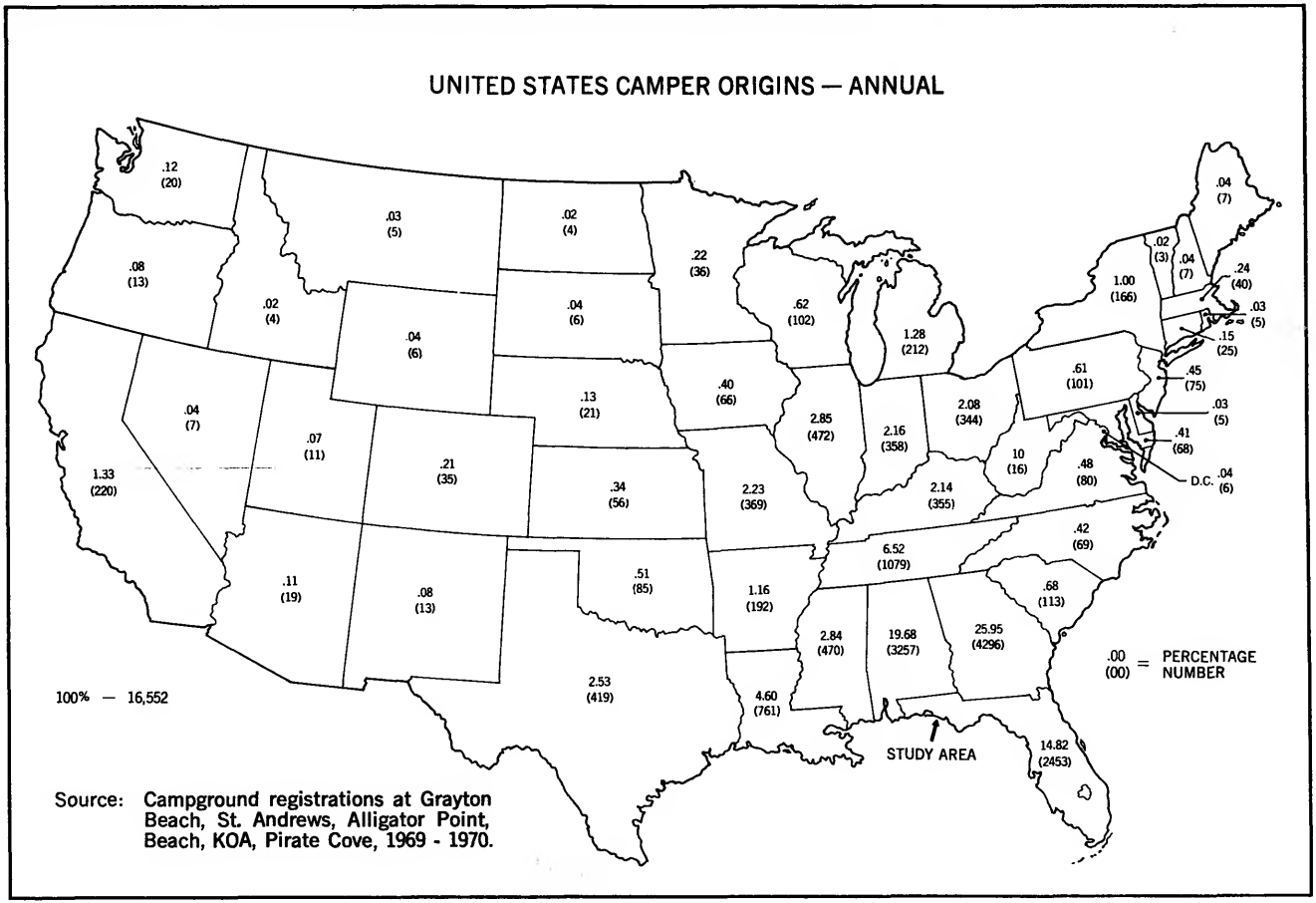

UNITED STATES CAMPER ORIGINS — ANNUAL
.12 (20)
.08 (13)
.03 (5)
.02 (4)
.02 (4)
.04 (6)
.04 (6)
.22 (36)
.62 (102)
1.28 (212)
.04 (7)
.02 (3)
.04 (7)
.24 (40)
1.00 (166)
.03 (5)
.15 (25)
.13 (21)
.40 (66)
.61 (101)
.45 (75)
.04 (7)
.07 (11)
.21 (35)
.34 (56)
2.23 (369)
2.85 (472)
2.16 (358)
2.08 (344)
.03 (5)
.41 (68)
1.33 (220)
10 (16)
.48 (80)
D.C. .04 (6)
2.14 (355)
.42 (69)
6.52 (1079)
.11 (19)
.08 (13)
.51 (85)
1.16 (192)
.68 (113)
2.84 (470)
19.68 (3257)
25.95 (4296)
.00 (00) = PERCENTAGE NUMBER
100% — 16,552
2.53 (419)
4.60 (761)
STUDY AREA
14.82 (2453)
Source: Campground registrations at Grayton Beach, St. Andrews, Alligator Point, Beach, KOA, Pirate Cove, 1969 - 1970.

Figure 13

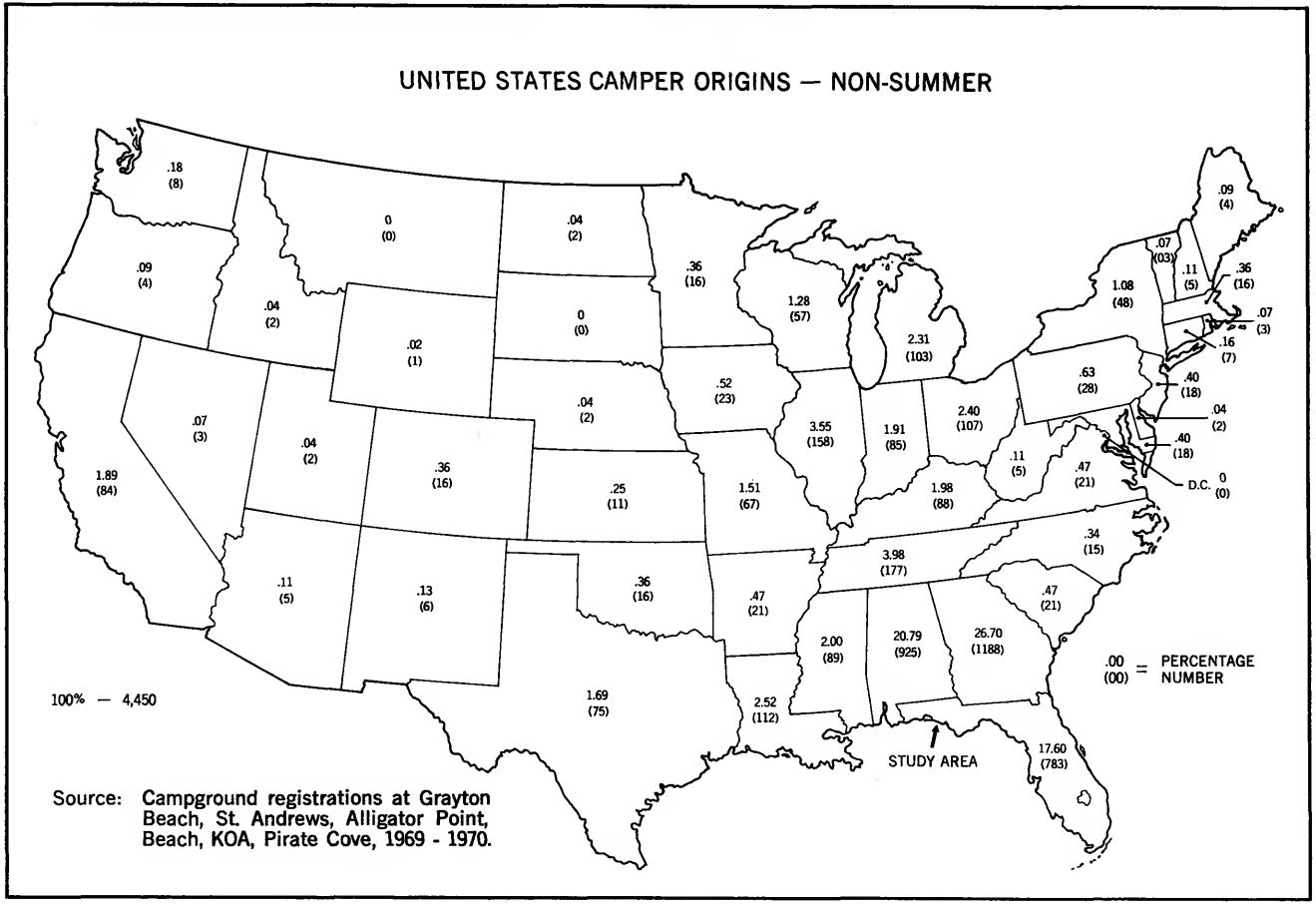

UNITED STATES CAMPER ORIGINS — NON-SUMMER
.18 (8)
.09 (4)
0 (0)
.04 (2)
.04 (2)
.02 (1)
0 (0)
.04 (2)
.36 (16)
.52 (23)
1.28 (57)
2.31 (103)
3.55 (158)
1.91 (85)
2.40 (107)
.09 (4)
.07 (03)
.11 (5)
1.08 (48)
.36 (16)
.07 (3)
.16 (7)
.63 (28)
.40 (18)
.04 (2)
.40 (18)
D.C. 0 (0)
.47 (21)
.11 (5)
1.98 (88)
.34 (15)
3.98 (177)
.47 (21)
26.70 (1188)
20.79 (925)
2.00 (89)
2.52 (112)
17.60 (783)
STUDY AREA
1.69 (75)
.36 (16)
.47 (21)
.25 (11)
1.51 (67)
.36 (16)
.13 (6)
.11 (5)
.07 (3)
.04 (2)
.36 (16)
1.89 (84)
.00 (00) = PERCENTAGE NUMBER
100% — 4,450
Source: Campground registrations at Grayton Beach, St. Andrews, Alligator Point, Beach, KOA, Pirate Cove, 1969 - 1970.

Figure 14

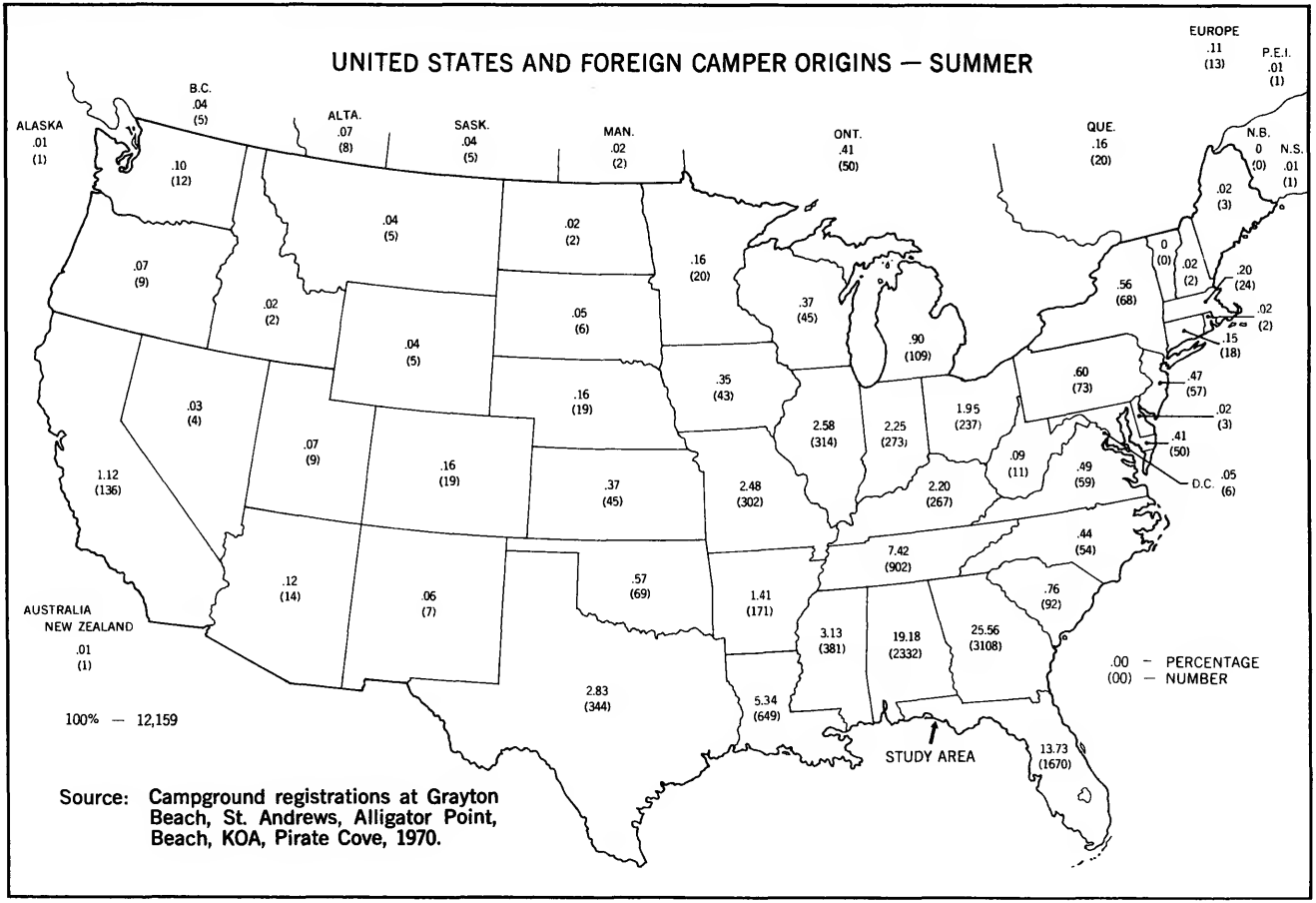

UNITED STATES AND FOREIGN CAMPER ORIGINS — SUMMER
EUROPE .11 (13)
P.E.I. .01 (1)
B.C. .04 (5)
ALASKA .01 (1)
ALTA. .07 (8)
SASK. .04 (5)
MAN. .02 (2)
ONT. .41 (50)
QUE. .16 (20)
N.B. 0 (0)
N.S. .01 (1)
.10 (12)
.02 (3)
.04 (5)
.02 (2)
.16 (20)
0 (0)
.02 (2)
.20 (24)
.07 (9)
.37 (45)
.56 (68)
.02 (2)
.02 (2)
.05 (6)
.90 (109)
.15 (18)
.04 (5)
.35 (43)
.60 (73)
.47 (57)
.03 (4)
.16 (19)
2.58 (314)
2.25 (273)
1.95 (237)
.02 (3)
.07 (9)
.41 (50)
.09 (11)
.49 (59)
D.C. .05 (6)
1.12 (136)
.16 (19)
.37 (45)
2.48 (302)
2.20 (267)
.44 (54)
7.42 (902)
.12 (14)
.06 (7)
.57 (69)
1.41 (171)
.76 (92)
AUSTRALIA NEW ZEALAND .01 (1)
3.13 (381)
19.18 (2332)
25.56 (3108)
.00 — PERCENTAGE
(00) — NUMBER
2.83 (344)
5.34 (649)
100% — 12,159
STUDY AREA
13.73 (1670)
Source: Campground registrations at Grayton Beach, St. Andrews, Alligator Point, Beach, KOA, Pirate Cove, 1970.

Figure 15

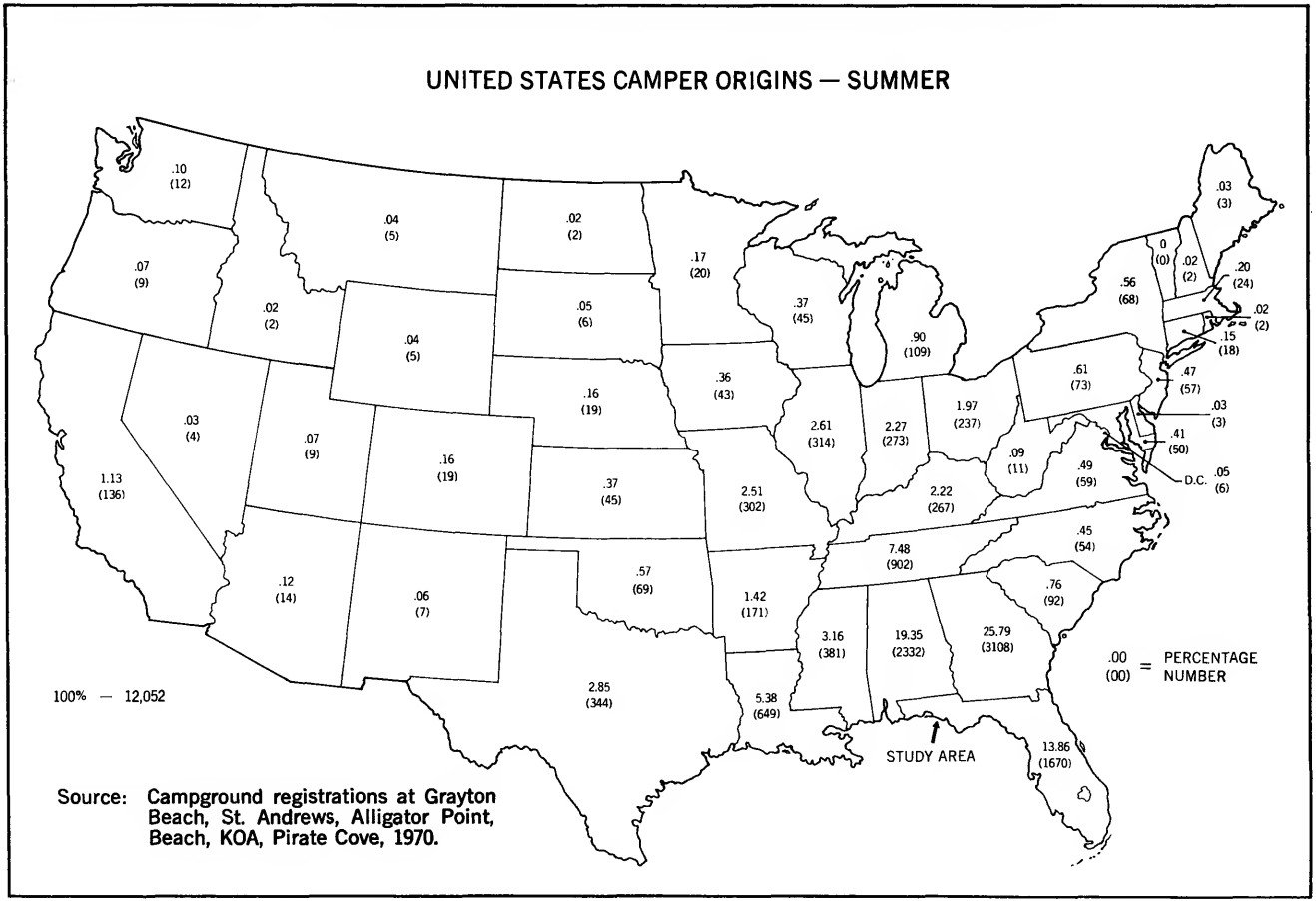

UNITED STATES CAMPER ORIGINS — SUMMER
.10 (12)
.07 (9)
.04 (5)
.02 (2)
.02 (2)
.04 (5)
.05 (6)
.17 (20)
.37 (45)
.90 (109)
.03 (3)
0 (0)
.02 (2)
.20 (24)
.56 (68)
.02 (2)
.15 (18)
.61 (73)
.47 (57)
.03 (3)
.41 (50)
.09 (11)
.49 (59)
.05 (6)
D.C.
.03 (4)
.07 (9)
.16 (19)
.16 (19)
.36 (43)
2.61 (314)
2.27 (273)
1.97 (237)
1.13 (136)
.37 (45)
2.51 (302)
2.22 (267)
.45 (54)
7.48 (902)
.12 (14)
.06 (7)
.57 (69)
1.42 (171)
.76 (92)
3.16 (381)
19.35 (2332)
25.79 (3108)
.00 (00) = PERCENTAGE NUMBER
100% — 12,052
2.85 (344)
5.38 (649)
STUDY AREA
13.86 (1670)
Source: Campground registrations at Grayton Beach, St. Andrews, Alligator Point, Beach, KOA, Pirate Cove, 1970.

Figure 16

is shown broken down into non-summer visits (Figure 14) and visits during the summer survey period (Figures 15 and 16). Figure 15 is based on visits from the conterminous United States and all other visitor origins. Due to foreseen problems of analysis using population and other variates the main thrust is toward visitors originating within the conterminous states, hence the two maps. A distinct seasonality in visitor use of the study area was shown in Chapter III. Seasonality, furthermore, partly formed the basis for assignment of the study period to this research. The question of whether summer and non-summer market areas vary needed to be answered, for it could not be assumed logically that all states of visitor origin dropped proportionately in their share of visitors between summer and non-summer periods.

A comparison was made between Figures 14 and 16 for differences between non-summer and summer state shares of visitors. Clearly, all states do not vary proportionately, for some states exhibit what may be a randomly disproportionate drop during the off-season (see the western states). Though the number of total visits drop in all states (except in New England where they gain in absolute numbers), there are different regional rate patterns.

As do most of the plains states, most southern states

show a non-summer drop in proportion of total area visits. Exceptions are the proportions from Florida, Georgia, and Alabama where increases occur. This may reflect the relative location advantage of nearby residents in these three states who can take advantage of a brief period of warm weather or a nice weekend rather spontaneously to travel to the study area for a camping trip. Another possible explanation is en route stop-overs by Florida based spring and fall migrants from or toward the western states.

Other marked non-summer increases in proportion of total visits are accounted for by winter visitors from the Midwest and the Northeast. North Dakota, Minnesota, Iowa, Wisconsin, Illinois, Michigan, Ohio, West Virginia, Pennsylvania, New York, and the New England states all show increased proportions of visitors during the non-summer seasons. A notable exception for which there is no explanation is Indiana which showed a perceptably disproportionate drop. Whether this is owing to survey period local conditions in the state's industrial economy or to a regular feature of a seasonal visit cycle is unknown. The overall increase in northern regional share of the market during this period was expected and is no doubt aligned with the long-standing Florida migration of northerners during the cold, snowy winters.

It should be stressed that Figure 16 is an approximation of the maximum or absolute study period market area for the study area's camping visitors. This includes assumed market spatial overlap of the study area's visitor impact zone with those of surrounding competitive areas. The extent of overlap cannot be determined from such a map.

Resource Homogeneity

Within the outdoor recreation resource use literature it is common to find the problem of visitor perception of physical resource base characteristics or resource quality greatly neglected. Either assumptions of perceived physical differences are made or this factor is simply disregarded. Few studies have been made of physical environmental perception within a recreation resource context,[26] though the broader total field of environmental perception studies has approached several avenues leading to understanding of perceptual processes in general and as they pertain to a few specific environments.[27]

This research is partly in response to the paucity of research on physical resource perception that has been done within a spatial system context, and partly in order to attempt a limited verification of Christaller's theory of the periphery regarding the absolute periphery or seacoast.

In order to pursue this problem systematically, the following basic working hypothesis was formulated: seacoast sand beaches are perceived as a homogeneous recreation resource. Therefore, if all of such beaches are equal in perceived physical suitability for outdoor recreation (i.e., functionally homogeneous in that real physical resource differences are unimportant so that all coastal beach locations offer equivalent recreation satisfaction-potential) then, all other factors held constant, all such beaches are perceptually interchangeable. Consequently, if any ocean beach is perceived as having the capability of satisfying an individual's recreation need, providing certain basic assumptions are true, then that individual decision-maker will select that coastal beach perceived by him to be his most accessible location alternative. Since accessibility is such a complex multifarious concept that involves both physical-nonphysical, and site-nonsite restrictions on location availability as well as elements of travel connectivity, for practicality a surrogate term must be used. By considering travel connectivity as the root of accessibility, a reduced test hypothesis can be formed. This states that the decision maker will select the route or path of perceived least resistance to a beach location (provided a mini-max assumption is made for individual decision rationale). A

greatly simplified surrogate for a path of least resistance is least distance or least travel time.

Distance Minimizing Hypothesis

The final test hypothesis, including the above assumptions and surrogates and furthermore assuming the individual's perception to be accurate and comprehensive, may be stated as follows:

> The individual decision maker will select the seacoast beach location nearest in miles to his home or trip origin location.[28]

Figure 17 cartographically demonstrates some spatial implications of this test hypothesis. Assuming for the moment a homogeneous transport surface with direct highway connections between all pertinent locations in the nation, the nation-wide seacoast beach visitor tributary sheds or "market areas" can be defined in an interlocking pattern of regional markets. Since such a minimal-competition, limited supply of high order "resource based" ocean beach recreation opportunity exists, large market areas approximating nation-sheds would be expected. Four predicted tributary areas for the major competing coastal beaches are shown in Figure 17. A greatly generalized Pacific coast visitor-shed is thus located west of a line extending from northwestern Minnesota southwest to extreme western Texas as shown

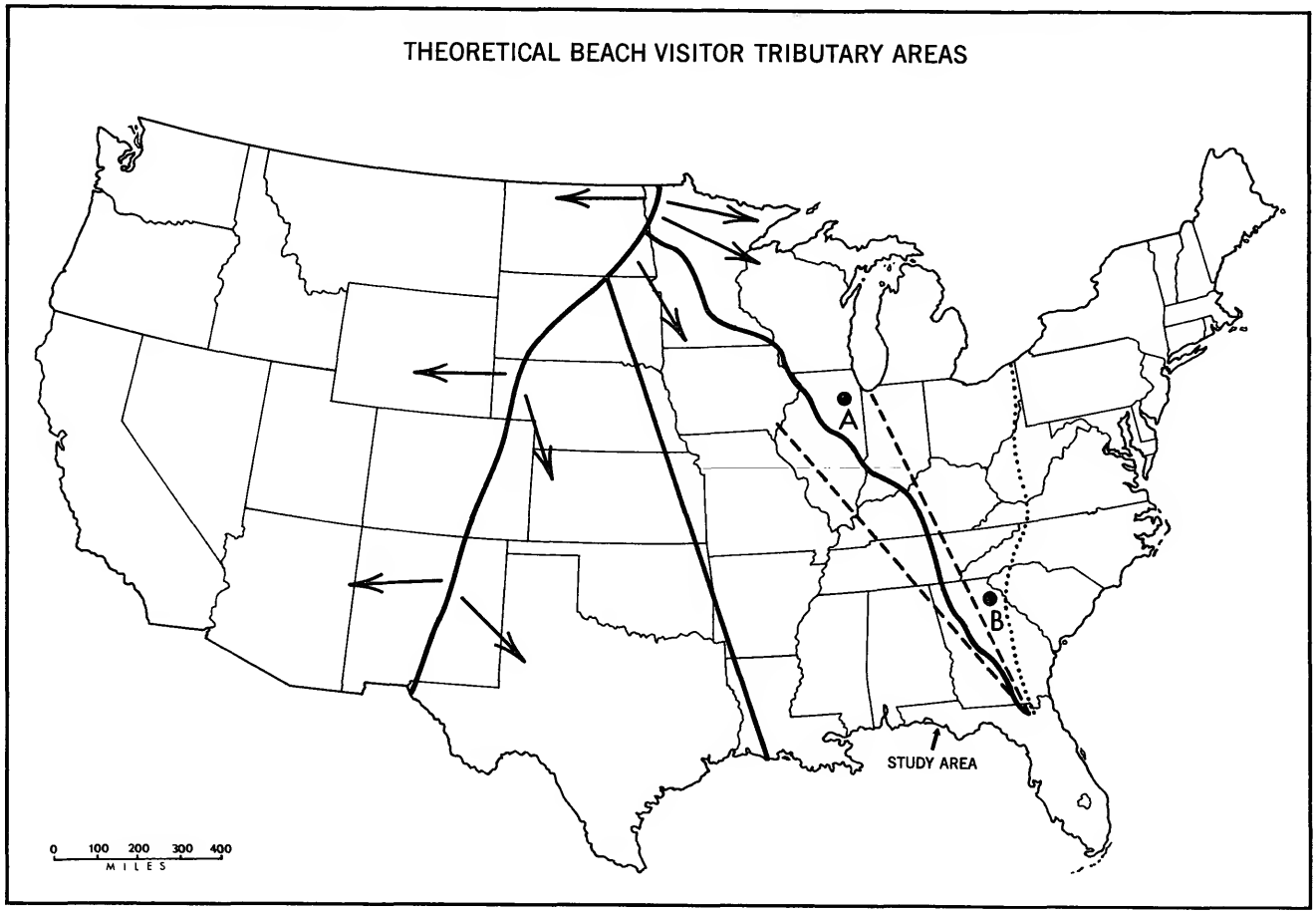

THEORETICAL BEACH VISITOR TRIBUTARY AREAS
A
B
STUDY AREA
0 100 200 300 400
MILES

Figure 17

on the map. Arrows indicate the closest beaches available as alternatives to recreation decision makers originating along this indifference line or competitive market area dividing line. Similar boundary lines divide visitor tributary areas focusing on Atlantic coast beaches from those focusing on study area Gulf beaches, and the Gulf study area tributary zone from that of the developed Texas Gulf beaches. It should be noted that Louisiana has no significant sand beaches on the Gulf. In addition, the northern half of the Texas Gulf coast is void of recreation and camping facility developed beaches.[29] Furthermore, on the eastern side of the Louisiana beach void, Gulf beaches that are accessible and developed with nearby camping are extremely limited, with only a few locations in coastal Mississippi and Alabama.[30] Therefore, the predicted location of the functional or competitive tributary area boundary between the two nonpeninsular Gulf beach areas defines a generalized linear indifference location between the southern Texas beaches and the approximate mid-point of the study area. The result is a roughly triangular-shaped predicted tributary area that inclines from its Gulf study area base toward the northwest with its apex in southeastern North Dakota. The shape irregularity is a product of space relations with alternate locations, and the large size is a

result of limited competition.

In order to test the validity of the distance minimizing hypothesis (as a partial test of the major resource homogeneity hypothesis), data were gathered by which an estimate could be made of the actual shape of the Florida Northwest Coast's camping visitor tributary area. Maps of observed camping visitor origin distributions were constructed to compare with Figure 17.

In order to refine the state distribution concept of the tributary area, a precise dot map was drawn (Figure 18). This shows origins of all camping parties that visited each of the survey campgrounds except Magnolia Beach. Each party is represented by a single dot plotted as near as possible to its origin. Precise rural-urban home location of each campground registrant relative to the post office city of address was impossible to discern; therefore, cities were used as plotting locations for visitor origins. Though dots tend to merge, or are theoretically on top of one another in totally merged locations, and since density and spatial distribution were map objectives, high origin-number occurrence-areas were cartographically sacrificed for greater accuracy in lesser density areas.[31] A dot representing multiples of party visits would have produced an entirely different map.

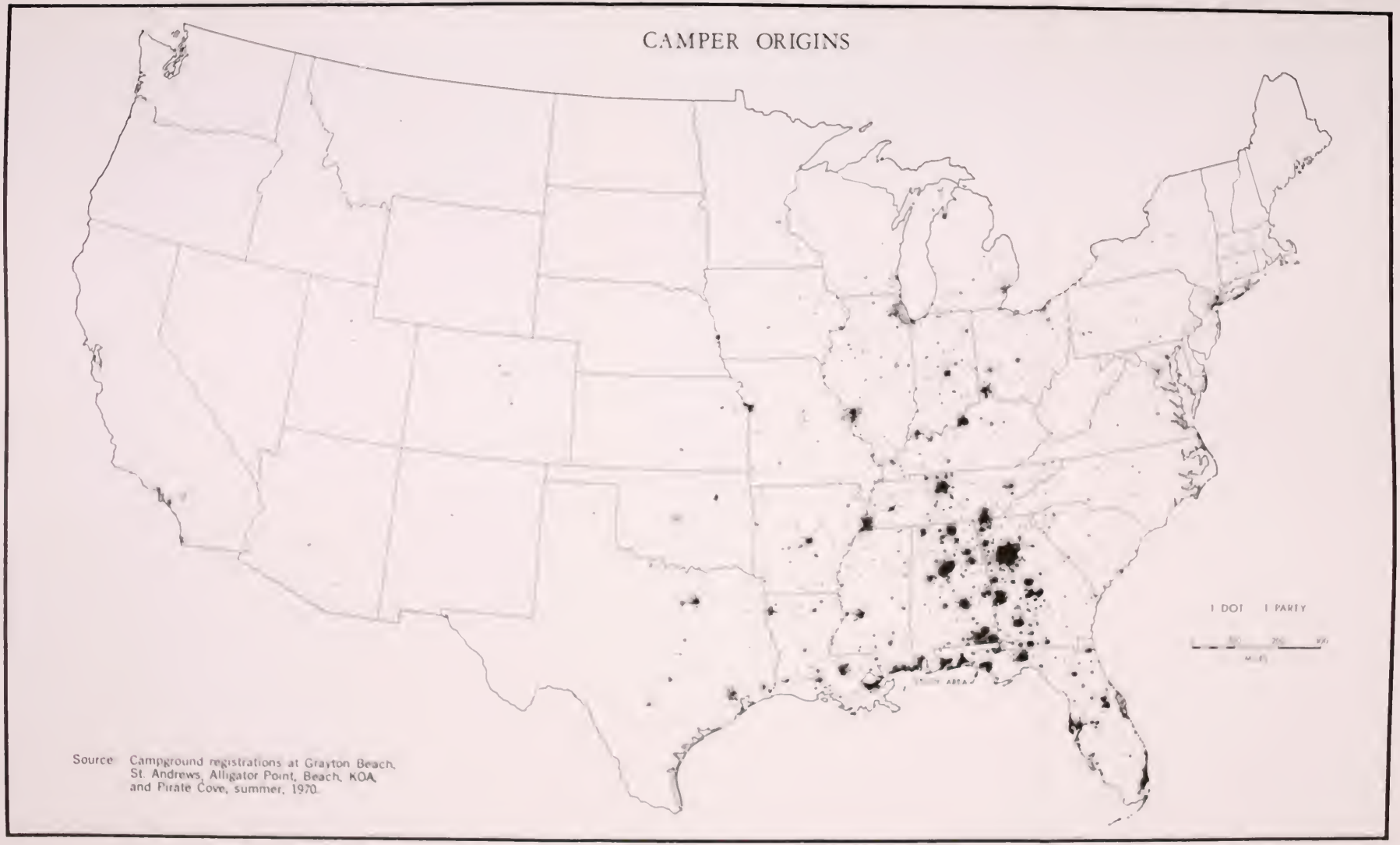

CAMPER ORIGINS
1 DOT 1 PARTY
Source: Campground registrations at Grayton Beach, St. Andrews, Alligator Point, Beach, KOA, and Pirate Cove, summer, 1970.

Figure 18

As would be expected from the state distribution map (Figure 16), Georgia, Alabama, Florida, and Tennessee stand out as visitor origins. However, the origins are far from evenly distributed throughout these or any other states. Instead, as most dot maps of discrete data show, the resultant distribution is portrayed in the reality of its discontinuous nature. Neither are origins distributed randomly as is visually obvious. See, for example, the west coast states and the plains states. Instead there is a very strong urban origin location emphasis. With this emphasis, and since population is not randomly distributed but is clustered, and since these urban clusters are unevenly distributed then the pattern of origins internal to the visitor tributary area is likewise a clustered pattern. The major metropolitan areas stand out on this map as dense clusters of dots while lesser concentrations are located at smaller cities and towns. (Urban demographic survey results verifying this method are found in Appendix V.)

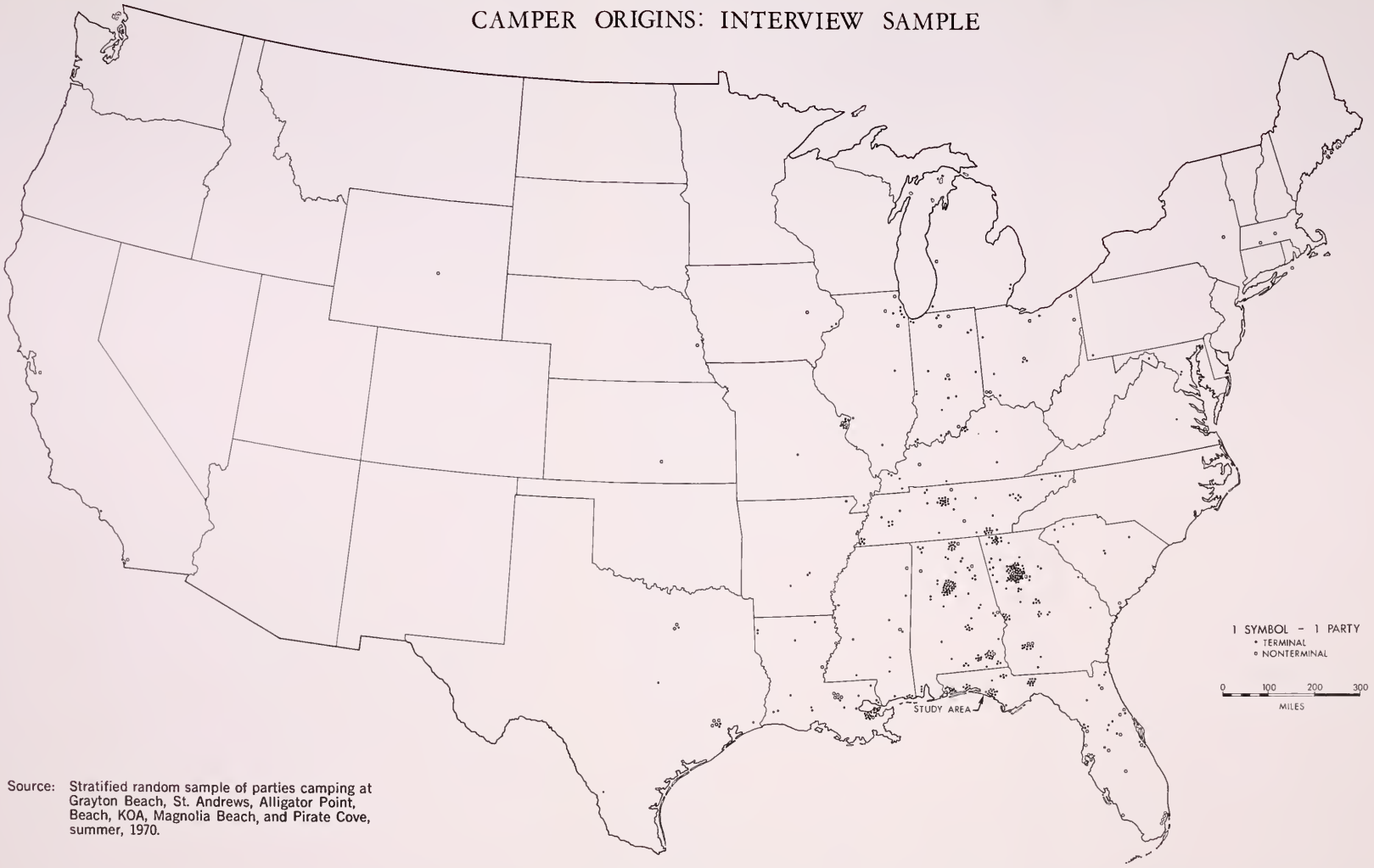
The ungeneralized discreet dot map consequently constructs a market or tributary area that appears quite unrelated to the symmetrical hexagonal or circular market areas and service areas of central place theory.[32] Not only is the area discontinuous and assymetrical, but distinct corridors of visitor origins emerge and equally distinct regional

vacuums, or areas nearly void of origins, can be seen. For example, the most obvious feature of this map is the north-south visitor origin corridor that extends from the study area through Alabama and Georgia, across Tennessee and Kentucky, and spreads through the Midwest into Illinois, Indiana, and Ohio, touching southern Michigan and Wisconsin. Another corridor, more narrowly defined, extends along the Gulf from southern Florida through the study area and wraps along the coast into Texas. Another irregularity is the presence of numbers of visitor origins in lower plains and midwestern cities, but cities located east of a line projected from south-central Georgia and passing through central Ohio are proportionately under-represented. Finally, much of the east coast is an origin vacuum.

Comparison of this dot map with the hypothetically predicted study area visitor-shed shown in Figure 17 suggests at least a partial verification of the distance minimizing hypothesis from which the predicted market area map was drawn. The east coast visitor origin vacuum fits the predicted map, as does the general alignment of the north-south corridor of visitor origins. The major distribution of Georgia visitors shows a nearly perfect concordance with the predicted visitor origin distribution. The northwest extension of observed visitor origins through Arkansas,

Missouri, Iowa, and into southern Minnesota, with inclusion of the extreme eastern parts of South Dakota, Nebraska and Kansas fits the prediction almost perfectly. Deviations from the expected distribution are evident in several sectors; the scattered western visitors, the central Oklahoma-eastern Texas arc (located within a 700 mile radius of the study area), and particularly the Georgia-Ohio aligned apparent shift of the market area into the predicted Atlantic tributary zone. It should be stressed that this map is simply a location refinement of the data shown in Figure 16, and consequently has the same interpretive limitations.

Figure 19, on the other hand, offers a refinement on the preceding dot map. Both figures should be used together, for Figure 19 is primarily an interpretive aid to the nearly 100 per cent camping visitor sample shown in Figure 18. This supplementary dot map is based on a 514 party interview sample of visitors represented on the major dot map. Note the dual classification of parties interviewed and represented on Figure 19. Of the 514 visitor sample, 376 were area terminal. The nonterminal visitors were en route to another terminal location (6.2%), on a tour (10.3%), or were terminal visitors to a cluster of locations including the study area in part (9.1%).



Source: Stratified random sample of parties camping at Grayton Beach, St. Andrews, Alligator Point, Beach, KOA, Magnolia Beach, and Pirate Cove, summer, 1970.

Figure 19

It is assumed that this secondary sampling is adequately correlated visually with the total visitor distribution of Figure 18 and thus warrants direct interpretation of the dual visitor party classification distribution. This classification is an attempt to estimate the functional-competitive market area for the study visitors. The nonterminal class is composed of visitors claiming a location other than one in the study area as a principal trip destination. These were therefore mainly touring visitors with multi-stop itineraries or were en route, overnight stop-over visitors. If the major distribution of terminal visitors is used to define a functional tributary area which excludes overlap area, then the market area can be seen to conform more closely to the boundaries predicted, with greater proportions of terminal visitors coming from within the predicted area and greater proportions of nonterminal visitors originating outside of the predicted market area. There still exists, however, a hint of a Texas-Oklahoma arc of deviation from the predicted distribution that tends to confirm the existence of a Gulf coast deviation corridor. Also, and more obvious, is the deviation from the predicted market area that exists in the shape of a well-defined corridor extending from the study area into Indiana and Ohio.

Indifference boundaries

A secondary explanation might be offered to help understand more deviation from the market area model predicted on assumptions of perceived resource homogeneity, interchangeability and distance minimizing individual behavior. The spatial competition boundaries of such competing locations[33] probably are not composed of points that can be connected by a line on a map forming a discrete boundary. Thus the analogy between such a boundary line as a visitor-shed and a linear mountain crest as a watershed probably breaks down.

Overlapping tributary areas have been demonstrated for port hinterlands[34] and forelands,[35] rural trade fairs,[36] livestock markets,[37] and cities as retail and service centers.[38] There would appear to be a firm basis from which to look for overlapping rather than discrete market areas. Another way of looking at this concept would involve interstitial areas between nonjoining market boundaries where the recreation trip decision could be based on consideration of more than one recreation resource area to which trips could be made without consideration of relative marginal satisfactions. Hence, these overlap areas might be simply multiple alternate travel opportunity zones at perceived equal cost.

Taking the case at hand, the north-south visitor-shed

line dividing visitors between Atlantic and Gulf coast beaches may in fact be a rough center line for a zone of overlap. In order to develop this concept, see Figure 17 again. Point A is located within the Atlantic beach shed and a camping party seeking to minimize travel distance would turn to a southern New Jersey beach for a camping vacation. To travel from point A to the study area would involve an approximately 11 per cent longer trip. From point B, on the Atlantic side, the nearest beach is Savannah Beach in Georgia. A visit to the study area would involve an almost 45 per cent longer trip. Thus, the probability of the recreation decision maker perceiving relative trip difference and reacting in a distance minimizing fashion might be hypothesized to decrease with decreased relative difference between alternate trip lengths. Or restated, the lesser the relative difference between travel distance options the greater the probability of travel indifference or perceived equi-distance. Stated thusly, the probability of a distance minimizing trip decision would be greater for point B than for point A. Also, with increased distance from all alternate recreation locations there might be anticipated a greater area of overlap or a greater lateral spread of a zone of distance indifference on either side of a predicted market indifference line. At least one

attempt has been made to construct such a probability of spatial indifference model, though it was for Iowa hog marketing interaction.[39] The wedge-shaped area within the broken (dashed) lines on Figure 17 demonstrates the expected shape of such a probability of indifference zone constructed around the predicted boundary or visitor tributary shed between Atlantic and Gulf beaches. Note that the apex should be at a point of minimal separation between resource areas. To Hoover, such recreation market area overlaps would result from absorption of excess travel costs by the visitor (who is both transfer agent and buyer).[40]

A number of other factors can be cited as possibly having an effect in causing the deviations from the predicted market distribution. To some extent these factors may be considered as enhancements to the hypothesized probability indifference wedge, or functional eastern extenders of this wedge in reality into Indiana, Ohio, eastern Kentucky, and Tennessee. See the dotted line on Figure 17.

Uneven friction of distance

Haggett, in a commentary on distortion of interaction field shape, suggests in addition to the asymmetrical elongation of a market area in response to location of competition (shown to exist in this study), that also there

is often found a modification of theoretical shape by the barrier effect of mountains as they decrease travel accessibility.[41] Losch also referred to competition and topography as shape deformers.[42] If such a topography factor is introduced as a relaxation of the assumed uniform transportation plain, then some possible transport relative advantages might be hypothesized. The Appalachian cordillera extends northward from northcentral Georgia, through northwest South Carolina, western North Carolina and Virginia, and through West Virginia, Pennsylvania, and into New York. Comparing the alignment of this major watershed with the origins of terminal visitors might indicate a correlation between west-crest locations and tendency to visit the study area rather than drive eastward through the mountains. Without eastern seaboard beach visitor origin data for comparison, such a mountain partial barrier to transportation remains unverified conjecture.

Historically highway route systems have been aligned with topography and ease of construction factors; therefore, to propose an Appalachian barrier that effectively displaces the predicted market area eastward toward the mountains is to propose for mountain fringe residents that their path of least resistance (or least cost, all travel factors considered) to an alternate beach is aligned to the southwest

and toward the Gulf along perceived "better" highway linkages.[43] Implied in this statement is a notion of friction of distance orientation of proposed lines of movement as these traverse varied topographic domains. Also, considering highway networks in reality it is found that they vary in arrangement with the same topographic factors and hence are not uniform in linkage, i.e., all points are not equally accessible from all other points. Consequently, routes may exert an effect on visitor movements and distribution of origins (hence shape of market area) as an independent factor. Losch adds credence to this notion in his discussion of market area shape as a function of the transportation system.[44]

Noting that "shape or pattern is related to process,"[45] and that process is the essence of this discussion (i.e., site selection and route selection from among alternatives), it was decided to construct a travel flow map in order to evaluate partially some of these ideas. The resultant map shows routing and other spatial aspects of movement to the study area by survey period camping visitors.[46] It will be noted that the 514 interview sample of Figure 19 is also the basis of the data portrayed in Figure 20, and that both direct and tour routing is included.

The general value of this flow map is for description

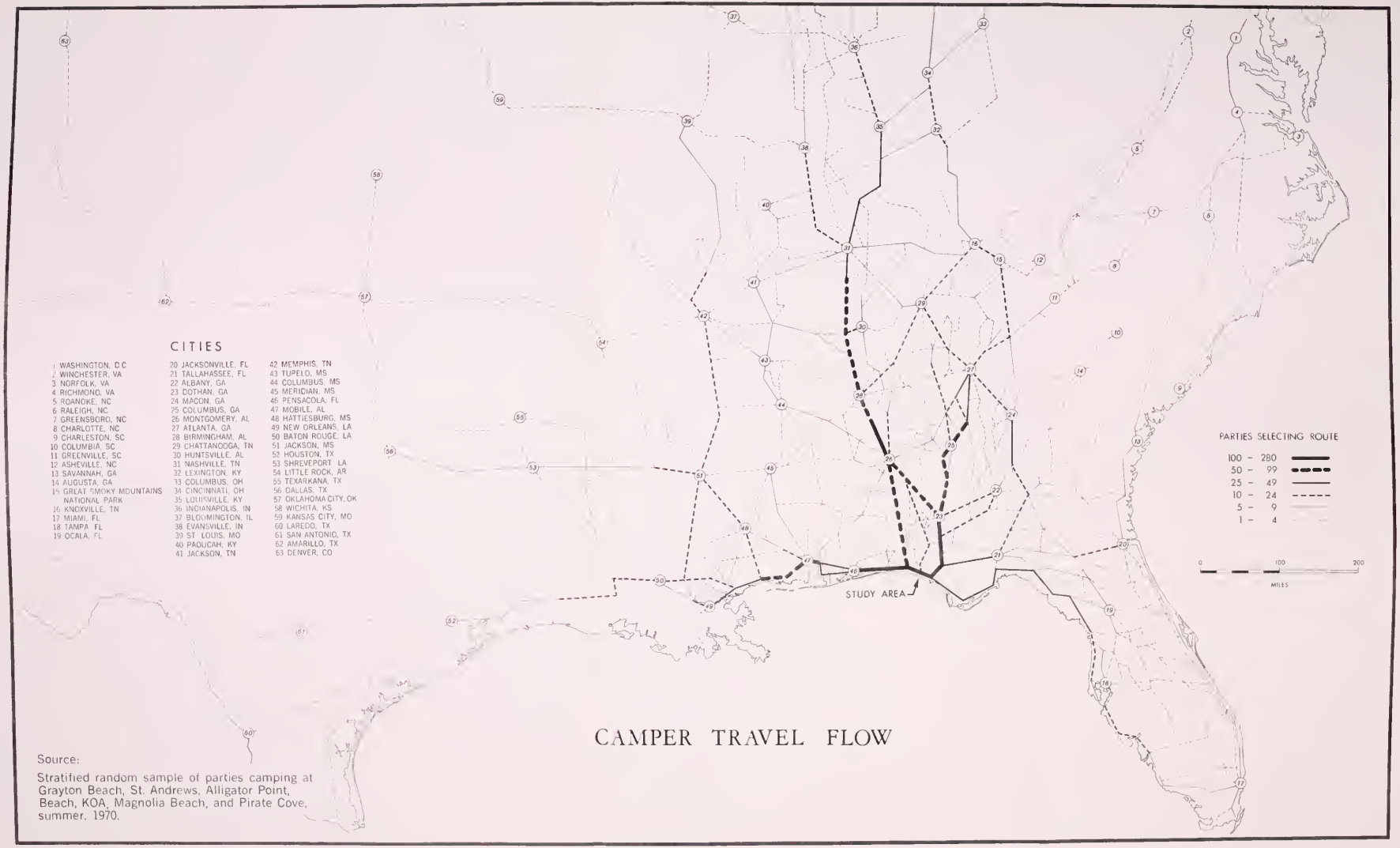

CITIES
1 WASHINGTON, D.C
2 WINCHESTER, VA
3 NORFOLK, VA
4 RICHMOND, VA
5 ROANOKE, NC
6 RALEIGH, NC
7 GREENSBORO, NC
8 CHARLOTTE, NC
9 CHARLESTON, SC
10 COLUMBIA, SC
11 GREENVILLE, SC
12 ASHEVILLE, NC
13 SAVANNAH, GA
14 AUGUSTA, GA
15 GREAT SMOKY MOUNTAINS NATIONAL PARK
16 KNOXVILLE, TN
17 MIAMI, FL
18 TAMPA, FL
19 OCALA, FL
20 JACKSONVILLE, FL
21 TALLAHASSEE, FL
22 ALBANY, GA
23 DOTHAN, GA
24 MACON, GA
25 COLUMBUS, GA
26 MONTGOMERY, AL
27 ATLANTA, GA
28 BIRMINGHAM, AL
29 CHATTANOOGA, TN
30 HUNTSVILLE, AL
31 NASHVILLE, TN
32 LEXINGTON, KY
33 COLUMBUS, OH
34 CINCINNATI, OH
35 LOUISVILLE, KY
36 INDIANAPOLIS, IN
37 BLOOMINGTON, IL
38 EVANSVILLE, IN
39 ST. LOUIS, MO
40 PADUCAH, KY
41 JACKSON, TN
42 MEMPHIS, TN
43 TUPELO, MS
44 COLUMBUS, MS
45 MERIDIAN, MS
46 PENSACOLA, FL
47 MOBILE, AL
48 HATTIESBURG, MS
49 NEW ORLEANS, LA
50 BATON ROUGE, LA
51 JACKSON, MS
52 HOUSTON, TX
53 SHREVEPORT, LA
54 LITTLE ROCK, AR
55 TEXARKANA, TX
56 DALLAS, TX
57 OKLAHOMA CITY, OK
58 WICHITA, KS
59 KANSAS CITY, MO
60 LAREDO, TX
61 SAN ANTONIO, TX
62 AMARILLO, TX
63 DENVER, CO
PARTIES SELECTING ROUTE
100 - 280
50 - 99
25 - 49
10 - 24
5 - 9
1 - 4
0
100
200
MILES
STUDY AREA
CAMPER TRAVEL FLOW
Source:
Stratified random sample of parties camping at Grayton Beach, St. Andrews, Alligator Point, Beach, KOA, Magnolia Beach, and Pirate Cove, summer, 1970.

Figure 20

as an end itself. What Lukermann has said about urban circulation has direct application within a recreation context:

> The physical link between the population and the service must be specified. Merely counting functions, establishments, or populations is not sufficient; the flow line must eventually be plotted.[47]

In other words, a complete concept of interaction between points must include some verification of the linkage process in actuality, i.e., flow between points within the real or idealized interaction net or web.

Figure 20 uses a deliberately uninflated sample since either way the nature of the graphic representation would be identical (except for possible difference based on introduced error caused by inflation of the sample). For simplicity, locations of cities and one national park are represented by keyed symbol. Furthermore, since, as became apparent in the sample survey, visitors tended to view travel and route selection as a process of choosing between multinode (city) linkage options or multi-segmented paths between origin and destination, cities are used as primary references for interpretation of the generalized travel route connections.

Returning to the notion of topographic barriers and uneven friction of distance, a specific explanation of the apparent eastward shift of the market area can now be

formulated. If uneven friction of distance does indeed exist, then it might be assumed that the increased travel ease and greater possible speeds of interstate highways would be one possible factor of market area expansion.

It was observed that an unpredicted group of visitors originated in Indiana, Ohio, Michigan, and parts of eastern Kentucky and Tennessee. If these could be shown to have used interstate routes then the hypothesis of expansion of the market area by decreased friction of distance (increased highway access) might be reasonably indicated as an explanation.

All sampled visitors from Michigan, Ontario (Canada), and northern Ohio moved south over interstate highways. Though local access links to interstates were used, all but one party originating in Ohio traveled through that state and through Kentucky by interstate routes. The one deviant route had only a partial link that was noninterstate. Almost as a rule, all northern visitors and all western originating visitors utilized interstates almost the complete length of their trip to the study area. Exceptions were situations where approximately direct routes by interstate were unavailable, whereupon arterial federal routes were usually selected. Except within about a 150 mile radius of the study area most of the routes on the flow

map used by 10 or more parties are interstate or major federal through routes. The Bloomington-St. Louis-Tupelo-Jackson artery is an interstate route. Also, the main north-south corridor flow artery connecting Indianapolis, Evansville, Louisville, Ohio cities, Nashville, Huntsville, Birmingham, and Montgomery is with exceptions of incomplete links an interstate route. From Montgomery the southerly flow divides taking US 331 to the west and US 231 to the east by way of Dothan. It will be seen that this main route collects travelers from both east and west as southern-tending feeder routes coalesce into the US 331-Interstate 65 flow.[48]

It will be noted that the few eastern origin visitors also traveled the interstates to a large extent (wherever they were available). An exception is the handful of visitors who traveled the scenic Blue Ridge Parkway from Winchester to Roanoke, Asheville, and to the Great Smoky Mountains National Park.

Another trend should be noted. A large number of touring visitors and those with longer vacation periods selected their route in order to travel through the Great Smokies. Thus the Lexington-Knoxville and Nashville-Knoxville routes stand out, as also do the eastern routes feeding into the Knoxville-Smokies area and the heavily

used federal routes linking the mountains with Chattanooga, Atlanta, and points south.

It would appear logical that the study tributary area's eastward extension beyond that predicted by minimum distance concepts is influenced by unequal accessibility factors. The north-south friction-reducing interstates appear to favor expansion of the market area, especially when viewed against the minimal supply of good east-west mountain routes, thereby increasing the tendency to travel south to the Gulf. Though a few visitors chose to use the scenic or local-character by-ways, it appeared that most of the visitors chose a faster more convenient interstate route, at least until they neared the study area. It is also significant that Bingham and others found this same Florida-Midwest corridor in a Kentucky study,[49] and several have commented on the interstate impact on recreation travel.[50]

The Texas-Florida Gulf corridor also might have partially an access reason for its existence. Florida residents tended to gravitate to the west coast as they journeyed northwest out of Florida. Touring visitors passing out of or into the state also tended to take the same Gulf route, though it may be the appeal of the Gulf coast that influenced their route selection. Many western and plains

states visitors tended to take the most direct route to the nearest part of the Gulf coast and then they also traveled along the coast routes.

Information bias

At least one complex factor exists that can be considered a possible reinforcement, lending enhancement to the process and shape-logic of both the predicted and observed study tributary areas. Caution should be exercised, however, for this reinforcement process may stand as a chief explanation for the observed market area shape, exclusive of the logic by which the prediction of shape was made.

There is doubtless a broad array of recreation movements that might be classed as sub-optimal behavior.[51] Much of what might be grouped this way can be related to the information basis upon which decisions are made. It is difficult to conceive of an individual having perfect information about all pertinent variables that should be involved in an optimum decision. There is reason to believe that individuals have, in addition to basic cultural and economic information filters, a number of social and other factors that limit or restrict the number of perceived recreation alternatives from which selection and participation ensues.

Piperoglou, for example, has suggested that individuals develop different kinds of specific biases for, or bonds with, places which tend to produce preferences for locations and even tend to influence what types of places the individual considers as a recreation resource.[52] The notion of such individual-to-place bonds can be expanded to predict the existence of bias within an area for a particular recreation place. Such a situation might result from location-differential receptivity to information flows. In other words, information about different places may flow through a selectively permeable intervening social-physical distance, so that information may be more easily received from some directions or places than others.

Deasy and Griess showed that regional orientation is a real factor in shaping the market or influence area of a recreation facility.[53] They associated population migration and regional communication factors with the directional bias of market areas of two small commercial tourist attractions in Pennsylvania. Bingham, Pickard and Romsa also have suggested such regional factors.[54]

Guthrie also has seized upon this idea and has proposed that emigration from an area often may be associated with high incidence of visits to that area for vacations.[55] The potentially superior information level concerning

recreation places, conditions, and alternates in the old residence area could easily result from communication biases toward that area as friends and relatives maintain contacts. Since word-of-mouth advertising has been shown to be the most effective information system for campground information dissemination there are obvious applications of this line of reasoning to the study area problem. The significance of the preceding comments is that economic migration corridors may become reverse-flow recreation migration corridors.[56]

In order to test this notion, comparisons were made of the shape of the study visitor tributary area and existing maps outlining emigration from the areas immediately surrounding the study area. Rose cartographically illustrated the black migration flow from Mississippi, Alabama, Tennessee, and Kentucky northward into the major cities of Illinois, Indiana, Ohio, and Michigan.[57] Adams also has pointed out the existence of a similar northern Indiana-Illinois economic migration corridor extending southward into southern Alabama and Mississippi.[58] Both authors found an Atlantic seaboard migration corridor that agrees with the partial east coast visitor origin void.

Another interesting information-based explanation for the tributary area shape is based on application of reverse

diffusion concepts. Hagerstrand describes a distribution such as has been observed in this study as a "nebula distribution" which he attempts to explain on the basis of diffusion of ideas. Such distributions are understandable when viewed relative to the "starting-point and the function of the growth process...."[59]

Application of diffusion concepts suggests that truncation of the study tributary area by the Gulf of Mexico may function as a reflective barrier that tends to intensify or concentrate formal advertising, word of mouth advertising, etc., and spread it farther than normally expected in the direction opposite the barrier.[60] This concept of physical barriers influencing communication and spread of ideas might also tend to emphasize the Appalachian-crest, apparent market-divide between Gulf and Atlantic beaches.

The allure of Florida as a vacation spot was anticipated but the effect is unknown. Also, the locations, amounts, and types of formal advertising placed in the tributary area is unknown. However, survey response indicated that at least 4 per cent of the visitors sampled selected the area as a direct result of reading formal advertising literature of several types. Deasy showed this factor to be quite important in determining tributary area shape. Another factor

anticipated, but unknown in effect, is that of a possible directional bias that for some unknown reason may make southward rather than northward vacation-recreation movement more appealing.

Noncomparative Hypothesis

The original hypothesis was that beaches are perceived as homogeneous resources. It was assumed that if this was a true statement then a distance minimizing travel process should result. The validity of this assumption has been shown to be probable. However, validity is within the limitations of uncontrolled variables which were also discussed and shown to have conceivably caused part of the observed results. Consequently, the verification of the hypothesis is somewhat tenuous.

Another test of the resource homogeneity hypothesis was proposed. If the physical properties of any beach can meet an individual's recreation needs then logically it must follow that the individual's recreation area or site selection-decision making process will be noncomparative or nonevaluative in regard to beach physical characteristics at alternative locations. That is to say, the decision maker will not choose a beach entirely or partly on the basis of perceived "better" physical recreation-satisfaction potentials.

In order to test this hypothesis, beach camping visitors were interviewed to ascertain their stated reasons for selection of the study area as a recreation destination. It was decided to reject the hypothesis if visitors chose the area because of some perceived outstanding physical resource qualities present in the area, or if the visitors described a physical factor comparative-process of selection of the study area beach resource. (A full listing of study area selection factors follows in the discussion of the next working hypothesis.)

Since the decision-selection process was found to involve conscious consideration of physical factors and was indeed a comparative selection process, at least for some visitors, the resource homogeneity hypothesis was tentatively rejected. However, since the distance minimizing hypothesis also was accepted tenuously, the rejection of the major hypothesis was made more certain. Therefore, it would appear that beaches are at least partly selected in a resource-comparative physical quality consideration process. If this is the case, then one must suspect that people select recreation locations (within unknown limits) at least partly in order to utilize unique combinations of natural resource physical beach characteristics. Hence beaches are not physically interchangeable in perceived

recreation satisfaction potential nor are they perceived as a homogeneous resource.

This would lend more credence to the differential information and travel-ease explanations for the existing north-south market area corridor. The possible extension of the functional market area eastward to somewhere in the Appalachians may still be assumed logical under beach quality considerations. If assumptions of resource degradation, etc., are made for the northeastern coast of the nation, then the mountains might still effectively form a break-point for mid-western tendency to travel to the Gulf instead of to the assumed poorer quality beaches of the crowded Northeast.

The author suspects that the distance minimizing hypothesis as modified by the proposed probability of indifference wedge might still have some validity. The validity may be a function of distance (physical or other) from the coast, and may be aligned with distance-related increased absence of information with which to compare physically beach alternatives.[61]

If, in fact, perception of resource quality lies beneath beach selection from alternate locations, then not only might the north-south visitor origin corridor with its Appalachian shift-area be explained, but also the apparent

overlap of market area toward the Texas Gulf area. The Gulf coast corridor, west of the study area, might result from relative differences in beach quality causing a westward shift in visitor origins.

Some sample evidence indicates likeliness in the preceding statement. An attempt was made to check on possible unusual circumstances that would tend to invalidate intended observations of a "normal" tributary area, or a "normal" visitor season. Visitors were asked the following question:

> For this trip would you have gone to one of the Louisiana, Mississippi, or Alabama Gulf beaches if that area had not been partly destroyed during the last hurricane season?

Only one of 513 answered yes to this question. Some (12) had either toured or planned a tour through the area with a brief stopover. The interesting response by most was "We wouldn't have gone there anyway. The beaches are not clean [or not pretty, not sandy, too muddy, etc.] ." Clearly then, to find satisfactory beaches these visitors came much farther than predicted by a distance minimizing model to the Panama City area, thus partly accounting for market area shifts and corridors. Also, overlap between this hypothesis and the following clearly indicate, as will be developed, a highly comparative selection process that

deals with physical and nonphysical landscape components.

Resource Specificity Hypothesis

Seashore is a unique recreation resource which is in limited supply and is beyond practicability in artificial provision for supply expansion. For United States residents the seacoast is a scarce resource relative to interior recreation resource supplies. Furthermore, since the absence of rocky shores, marsh, or swamp and presence of sand grain particle sizes covering the interface between land and sea is not universal, there is a further restriction of the supply for coastal sand beach.

It might be proposed, therefore, that uniqueness alone may be a basis for recreation resource specificity or preferences among recreationists. Thus the following hypothesis was formulated:

> Sea coast beaches are perceived by campers as unique recreation resources and are noninterchangeable with interior recreation resources.

That is to say, that if a party decides on seaside recreation, other resources are substitutively or competitively lower in satisfaction potential. Therefore, forests, mountains, lakes, streams, and reservoirs are not interchangeable with coastal beaches.

A second choice or alternate location for a trip might be expected to be coastal beach if the first choice was a beach. A forced-choice type of question was given to interview respondents to ascertain where they might have gone if for some reason the study area had not been open to visitors.

As expected, a large number of area visitors selected another ocean beach as either a first or second choice forced alternate. Though not conclusive, having 62 per cent (226 of 364 respondents) list a beach as an alternate would seem to indicate that seacoast beaches are perceived as unique resources and are somewhat noninterchangeable with interior resources.

Table 4 gives a breakdown of first and second choice alternate resource types considered by those responding to this question. It will be noted that of 494 respondents only 364 are included in this table. The others answered that they would simply stay home (43, being extremely site specific in preference), come anyway for business (6), tour-through without stopping (39), or go elsewhere to visit friends and relatives (12). The sample represented includes terminal as well as nonterminal visitors to the study area.

The alternates listed by resource type in Table 4 are

TABLE 4

RESOURCE ALTERNATES

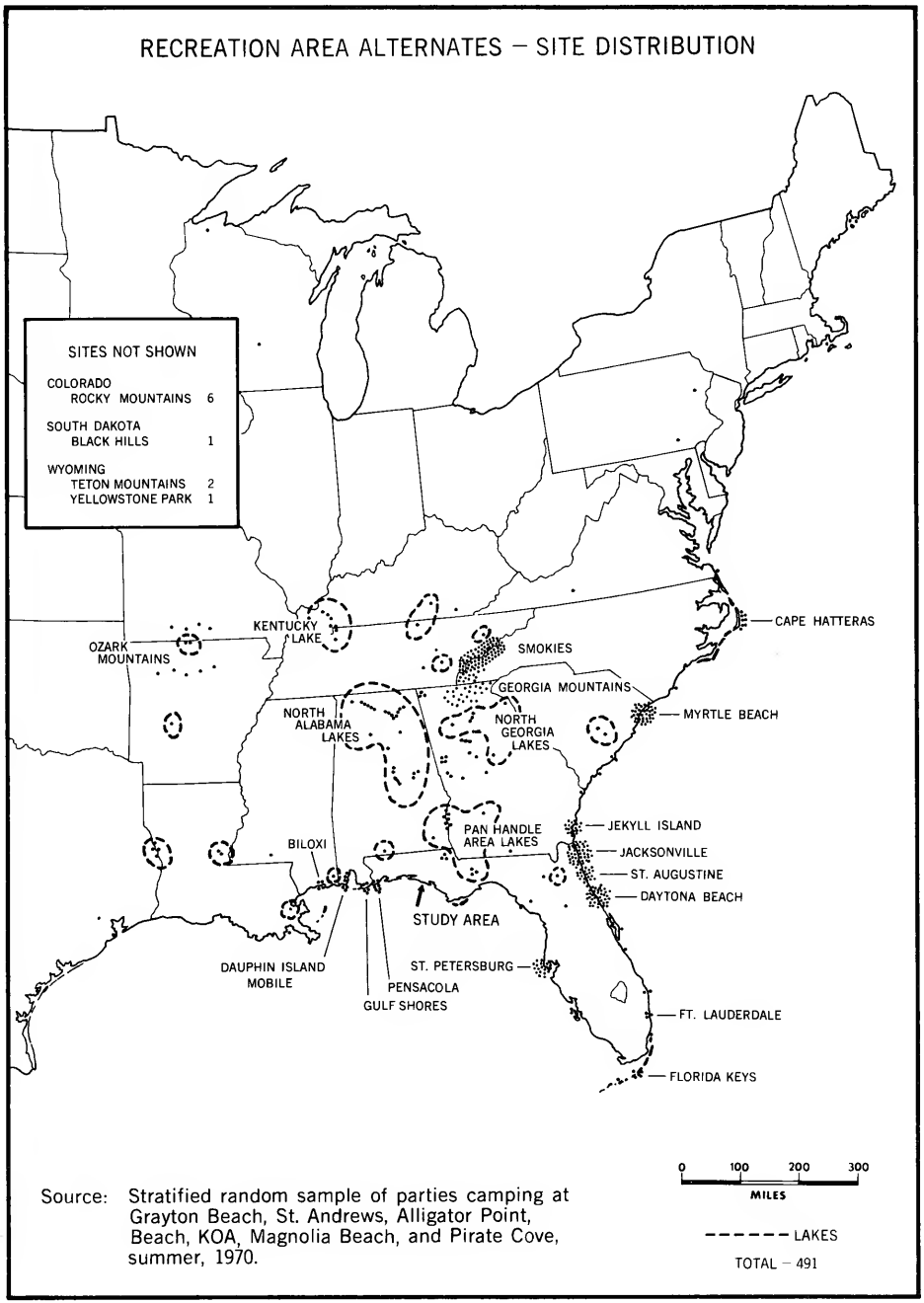
Resource Type	Number of Respondents		Percentage of Total	
Coastal beaches		226		45
Inland				
Water bodies (lakes, reservoirs, and streams)	73		15	
Mountains and hills	143		29	
Miscellaneous	45		9	
Cities	14		3	
		275		55
Totals		501*		100

* The total number of respondents selecting different resource types exceeds the sample number (364) because second choice alternates are included.

shown in Figure 21 as specific recreation resource-area alternates as they were distributed mainly in the South. Each alternate selection is located by a single dot on the map. The total represented does not agree with Table 4 because cities and nonspecific locations are omitted. Dominance of the South, and particularly Florida as alternate regions is shown in Figure 22, which includes all listed alternates expressed as a percentage of the total sample. Note the complete absence of alternates in the lower midwestern states. An interesting addendum to this map is that it coincides quite well with Campbell's map of "people and vacation regions" drawn in 1949.[62] However, more recent recreational developments have changed the southern recreation region, adding a number of reservoir, state park, and tourist attractions to the vast interior South.

Comparative Resource Perception

In order to assess further the resource specificity hypothesis and in general to expand on the process and factors of study area selection, a group of perception and attitude data were interview-gathered. Two open-ended questions were asked:



Source: Stratified random sample of parties camping at Grayton Beach, St. Andrews, Alligator Point, Beach, KOA, Magnolia Beach, and Pirate Cove, summer, 1970.

Figure 21

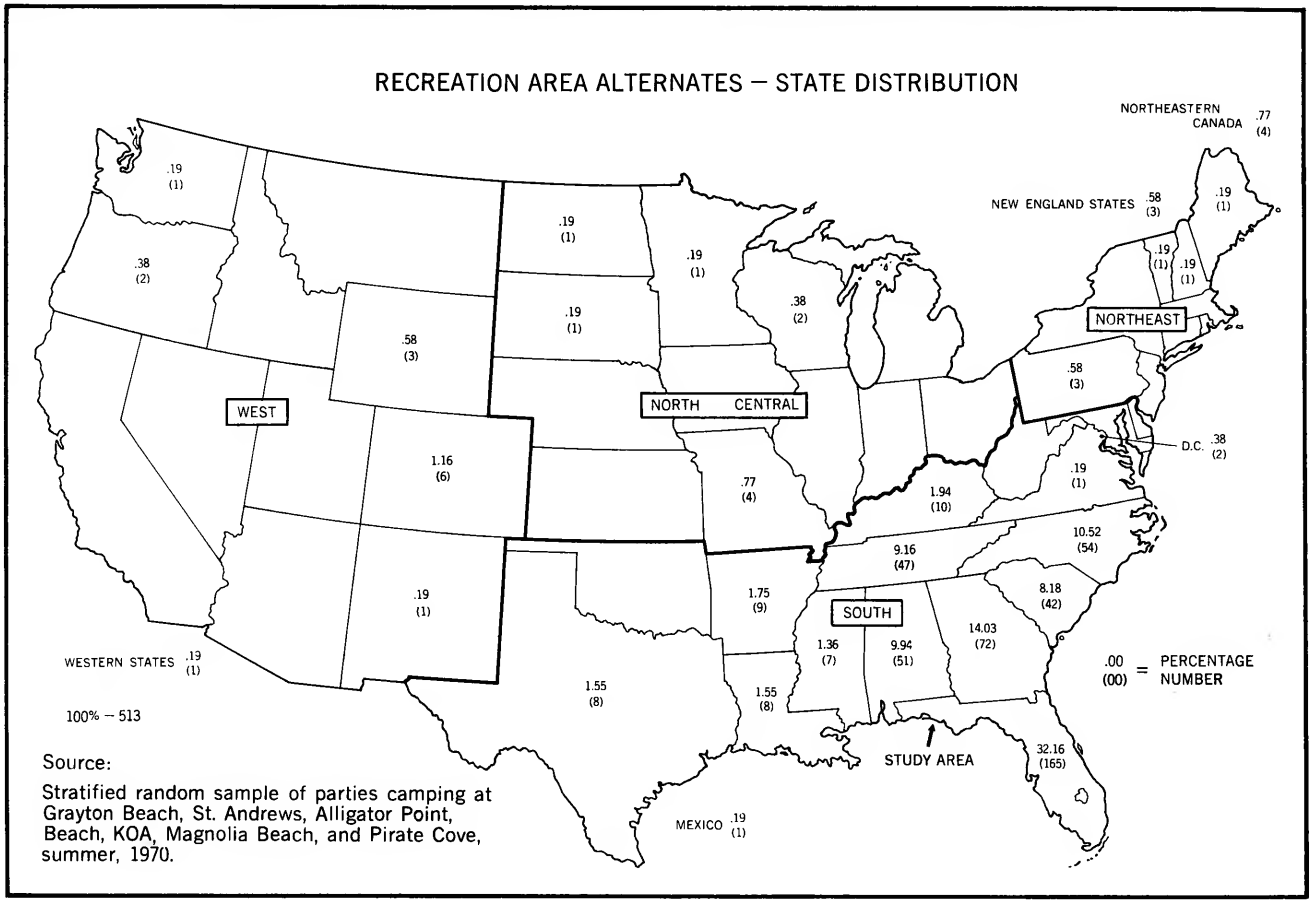

RECREATION AREA ALTERNATES — STATE DISTRIBUTION
NORTHEASTERN CANADA .77 (4)
NEW ENGLAND STATES .58 (3)
.19 (1)
.19 (1)
.19 (1)
.19 (1)
.19 (1)
.38 (2)
.19 (1)
.38 (2)
.58 (3)
NORTHEAST
WEST
NORTH CENTRAL
.58 (3)
D.C. .38 (2)
1.16 (6)
.77 (4)
.19 (1)
1.94 (10)
9.16 (47)
10.52 (54)
.19 (1)
1.75 (9)
SOUTH
8.18 (42)
14.03 (72)
1.36 (7)
9.94 (51)
WESTERN STATES .19 (1)
.00 (00) = PERCENTAGE NUMBER
1.55 (8)
1.55 (8)
100% — 513
STUDY AREA
32.16 (165)
MEXICO .19 (1)
Source:
Stratified random sample of parties camping at Grayton Beach, St. Andrews, Alligator Point, Beach, KOA, Magnolia Beach, and Pirate Cove, summer, 1970.

Figure 22

1. Why didn't you select an inland recreation area located on a lake or reservoir, perhaps with sand beaches?

2. Why didn't you select an inland place that offered some other scenic and recreation activity opportunities, like the mountains, a forest, or a large city?

Since the answers were made in a conversational or discussion-type reply it was impossible to record every statement made by respondents, nor would this have been necessary. It is possible that some interviewer bias was absorbed into the subjectively evaluated, selected, and recorded respondent's comments; however, exact statements were taken where possible. Since the purpose was exploratory, such nondiscrete answers to open-ended questions were considered most appropriate in order to limit question bias.

Expressed attitudes toward each of the alternate resource types mentioned in the above questions were grouped by a nonnumerical, subjective form of cluster analysis. Though a different kind of data coding and statistical manipulation could have yielded concise clusters of visitor attitudes characterized by minimum intragroup difference and maximum intergroup difference, the meaning and interpretation of such a scheme might prove to be less useful than this simple approach.[63]

Table 5 shows relative differences between study area

TABLE 5

RESOURCE SPECIFICITY COMPARISON

Attitude Group	Resource							
	Mountains		Lakes		Forests		Cities	
	N[1]	%[2]	N	%	N	%	N	%
Resource Nonspecific								
Variety oriented with familiarity-dissatisfaction	46	9	90	18	27	5	4	*
Variety search, without familiarity-dissatisfaction	167	33	105	21	64	11	22	4
Tourist orientation	38	7	23	4	34	7	14	2
Distance specific, maximizing tendency	9	2	21	4	7	*	5	*
Distance specific, minimizing tendency	32	6	5	*	7	*	1	*
Activity specific	63	12	85	11	42	8	17	3
Resource Specific								
Water preference	74	14	96	19	74	11	55	11
Seasonal resource specific	50	10	5	*	15	3	2	*
Negative resource specific	17	3	3	*	3	*	38	7

[1] Number of respondents.
[2] Per cent N of sample 514, omitting values of one or less.

visitor-views of different resources as alternatives to ocean beach resources. It must be stressed that these represent resource attitudes of people who proved themselves to be more or less resource specific at least for the trip on which they were interviewed at their selected resource location.

Parties often were found to agree in cluster assignment for different resources; however, considerable between-resource variation was found to exist in cluster tendency for individual parties. As an overview, the tendency was toward greater uniformity in total sample attitude toward certain resources. For example, there was an apparent neutral attitude toward forests as recreation resources. As a group, the opinion of forests was primarily as something to see or drive through on the way somewhere else. Also, forests tended to be lumped with mountain scenery. Respondents expressed neither preference for them nor dislike. Only two respondents specifically mentioned forest environments as acceptable recreation settings, while the majority simply tended to disregard them. As an added dimension, the attitude toward cities as recreation resources was also observed. Most respondents reacted to cities as they reacted to forests, with neutrality. Some, however, reacted more strongly so that as Table 5 indicates, cities evoked

the largest negative resource specificity reaction. Because of the variation in attitude groupings for each resource, general resource specificity and evaluations of alternate resources become most difficult topics on which to speculate.

The resource attitude and preference groupings listed in Table 5 are much more complex than indicated by name. Consequently, a summary of each follows in this section. It will be noted that though resource specific or nonspecific attitudes tend to dominate the two major groupings, homogeneity on these counts is far from perfect.

Resource nonspecific attitudes

Variety search. The most common attitude expressed was in most cases fairly neutral in relation to specific resource preferences. A key thought apparently was to find a recreation place that was perceived to offer variety or a change from the familiar recreation resource and hence experience. It was often difficult to separate visitors by their expressed attitudes into the two dominant subcategories of this major grouping. However, a large number expressed preferences strong enough to warrant suggesting the subdivision.

The first group expressed dissatisfaction with the resources of their greatest familiarity. They clearly

indicated that prior experience and familiarity with local recreation resources made them seem unappealing or not special enough for a vacation destination. This resulted in a search for a special or less common-place experience within a resource context that was unavailable near home.

The second group of variety or setting-change seekers based their decision simply on a desire to find the new, different, or more unique resource experience, with no indication of dissatisfaction with the familiar and often frequented. Though not separated by the study, this second group includes two types of recreationists, the place collector and the vacation-site repeater.

Place collectors are those seized by a wanderlust who keep score as they figuratively "collect" bumper stickers and places they can say they have visited. They do not habitually make repeated visits to the same places but skip around at whim, i.e., having seen, they move on to see something new. This group may go to a different place each vacation. There is only a time-scale difference between these and touring groups. Distance is not critical, but newness is.

The other type of recreationist repeatedly visits the same distant recreation area while on vacation. He prefers it annually (or at intervals) when time allows instead of

an often-used and satisfactory experience-yielding local resource. Note that this type may be quite specific in resource preference or he may simply be site habituated.

Tourist. The tourist may be distinctly resource non-specific in preference, as he takes in all interesting sites in his path. On the other hand, an individual tour may be quite resource specific, for example, a Gulf coast beach tour or a mountain route. In any case, often the recreationist doesn't make a clear distinction between resource alternatives to the point of a specific selection. Instead he selects a tour or nonterminal route in which a combination of resources may be enjoyed. This type often selects among trip alternates in order simply to vary the array of his recreation resource "smorgasbord." Basically, there may be only a time-scale difference between these people and the place collecting variety seekers who each year choose a different terminal vacation location.

Distance specific. Some resource specificity occurs, but the thrust of this attitude group appears to be toward placing foremost importance on distance factors. These range between distance maximizers and distance minimizers.

The distance maximizers are drawn away from the local recreation resource offering, whether or not it is familiar

to them, simply because it is local. Whether the local resource base is adequate to support their needs is unimportant and unconsidered. A certain "snob appeal" associated with increased travel distance appears to urge these people to consider only recreation area alternatives if they are located at a long distance from home. The requisite distance is a highly personal thing measured on an individually variable measuring stick.

The distance minimizers tend to be people with relatively shorter recreation time-periods at their disposal. They speak of "reasonable distances" as limiting consideration of alternate resources. Some even consciously are aware of economic distance factors as imposing limits on travel.

Activity specific. The last group of resource non-specific recreationists selects a recreation area on the basis of comparative estimated activity potentials at different locations. Therefore, many visitors selected the study area because they perceived the location to offer a superior activity selection. Comments generally considered ocean beaches to have a high activity potential making it the resource best suited for an outing or a vacation.

Comments by many respondents favored highly the beach camping and seaside recreation components described in Klausner's paradigm of social recreation. (See Appendix VI). Klausner proposed a seaside drama of "gaiety and sexuality" in opposition to "solemnity and labor" of the forest recreation experience.[64] Respondents favored ocean beach activity for its variety, excitement, movement, and contacts with many people.

Resource specific attitudes

Among the resource specific recreation attitudes there were basically three groups. These groups were found to be nonexclusive, for association with one might also be found to be in common with another or others.

Water preference. Some seeking recreation, select destinations on the basis of distinct environmental or recreation resource preferences, often regardless to proximity to their homes. The most common preference encountered in the survey was for water environments. These people preferred any kind of water-based recreation area to a non-water area. The second largest similar preference grouping was for salt water settings. Seacoast and particularly ocean beach settings apparently have more attraction or

scenic-recreation potential than locations on any other type of water body.

Seasonal resource specificity. Different resources, to some recreationists, are best enjoyed or are more suitable for visits in specific times during the year or in certain seasons. Often these are more experienced travelers and distinct travel habits have emerged in their leisure life. These particularly expressed a summer beach preference, or resource specificity, while they preferred the mountains in the spring or fall. Other combinations were found, such as fishing in the Gulf in the summer and other seasons in big lakes, or a summer beach preference matched with winter skiing in the mountains.

Negative resource specificity. Some resources are not even considered as trip alternatives because the recreationist considers them negatively. This may be balanced by a nonspecific or very specific attitude toward remaining resources. Cities and mountains evoked this reaction most often.

A variety of other attitudes also appeared in the grouping but they were assumed to be unimportant to a discussion of major themes. The presence or absence of relatives in an area, or nearness to work, for example, were

omitted. One respondent's comment maybe best caps this discussion. He said that after 25 years of camping "I've traveled them all [different resources] so much that now it's just a whim to go anywhere." The author wonders how much recreation decision-making among novices and experienced participants is simply a matter of whim.

Study Area Selection Factors

It must be recognized that the previous discussion indicated a considerable variation in user resource specificity based on whatever the individual's esthetic, perceptual or other measuring stick. Some are clearly resource specific recreationists considering only a location within a single resource type as being capable of meeting their recreation needs. This specificity can be total, seasonal or trip oriented. Others view outdoor recreation in a nonspecific resource-preference framework. To them a good regional location, a suitable activity potential, or a change from the familiar is all that is needed. For nonterminal, or touring, recreationists the contrast is again double.

Field data provide another indication of perceived interchangeability of coast beaches with interior recreation resources. Responses to the following more direct

questions were grouped to provide this information:

1. What were the most important factors that influenced your decision to come to this part of the Gulf coast?

2. What were the main reasons you decided to come here instead of to any other areas or places you may have considered?

The results of this enquiry were broader than anticipated. They provide an expansion on the notion of resource specificity but they place this idea within a total picture of factors accounting for visitor selection of a study area. The breadth gained in this examination of visitor decision-making surely is worthwhile from the standpoint of a deterrent to theoretical myopia and tunnel vision.

Area selection was found to rest on a number of factors expressed by respondents as reasons for coming to the Panama City area. In some cases single dominant reasons were given, but usually there were a number of overlapping or nonexclusive factors associated with study area visits. Table 6 lists these reasons and their underlying basis of preferred attributes.

The author suspects that frequency of response, or listing, of specific reasons is not very accurate, and would mislead if considered as an indication of actual total reasoning frequency. Though recording of respondent word choice and tabulations were accurate, it is suspected

TABLE 6

REASONS FOR STUDY AREA SELECTION

Reason-- Specific attributes favored	Number of Respondents
To see a previously unexperienced setting	
Ocean	52
Gulf of Mexico	21
Florida	59
a part	1
this part	33
beaches	14
New area	31
Different scenery	8
Panama City	12
Amusement strip	6
Grayton Beach State Park	2
Area military bases	1
To participate in activities	
Large variety	84
Amusements	84
Dog races	1
Crowd mingling	30
Good fishing	90
Good swimming	55
Boat watching	1
Water watching	1
Seafood dining	2
Campground conversation	2
Shell gathering	2
To utilize locational advantages	
Closest	
ocean or beach	87
good beach	2
part of Florida	32
major vacation place	8
Easy drive to area	16
Within reasonable drive	11
Convenient tour terminus	2

TABLE 6 (Continued)

Reason-- Specific attributes favored	Number of Respondents
En route	
to Florida peninsula	7
to other locations	13
Distant	7
To utilize superior quality resources	
Clean(er)	
area	1
sand	7
beach	31
water	73
Clear(er) water	19
Good (beautiful, nice, pretty, fine, great, etc.)	23
area	175
white sand	73
water	28
green (blue, blue-green) water	7
surf	15
To utilize environmental and other amenities	
Weather	
reliable	4
clear	4
sunny	21
good	1
warm(er), hot	13
cool nights	1
sea breezes	3
Fresh or sea air	7
Different climate	1
Water	
warm	2
convenient mix of fresh and salt	4
Insects not as prevalent	2
Less developed/commercial	2
Less crowded	2

TABLE 6 (Continued)

Reason-- Specific attributes favored	Number of Respondents
No blacks or hippies	1
Less expensive	1
Better camping facilities	2
To re-experience	
Habitual response	71
based on satisfaction and ignorance	38
Memory recapturing	
past satisfactory experience	59
youth memory recapturing	9
Resource specific compulsion	
revisiting past ocean environment	10
like ocean	45
like Gulf area (beaches, ocean, scenery)	151
like Panama City	4
like Florida	29
like St. Andrews State Park	5
To visit friends and relatives in area	28
To allow children their choice	32

that many simply overlooked basic decision-influencing factors and mentioned the immediate and secondary reasons. For example, many were satisfied return visitors, but to them it was not necessary to say the obvious reason for returning previous satisfaction. It is suggested that tabulations are meaningful only to the extent that major selection factors can be thus isolated. The total array is probably closer to why people came to the study area. A discussion of Table 6 follows.

To see. Parties came to the study area to see (to go to, or to visit) an area that all or some members had never seen before. The most dominant attractions that drew visitors were Florida and the ocean. It is certain that the name Florida has an advertising impact that borders on a status concern. Once only for the wealthy, now "everyone" can go to Florida and it would appear that they do just that. There is an undescribably magical allure associated with the ocean.

To participate. Recreation usually involves some type of activity participation. The variety of nonpassive activities available in the area is a decisive feature associated with area selection. Visitors stressed the crowd mingling aspects and excitement of plenty to do at the beach

and in the amusement sectors. A certain regional popularity was associated with use. Central Alabama young people knew the area was the "in" place with their age group and it was consequently selected as a vacation or outing destination in order to assure a satisfactory crowding level. Even fishing tended toward the more active forms, with deep sea and surf fishing predominating.

Location advantages. As hypothesized in the first of this chapter a number of distance-minimizing visits were made. Those who chose the closest ocean or beach tended to react as one man who said simply "Ocean is ocean." Note the combined effect of the pull of Florida as a visitor attraction and the fact that the study area is for many the closest part of Florida and has an ocean setting. If the area were part of Alabama it would be interesting to conjecture on visitor attraction. The last locational advantage is a somewhat reversed interpretation of the area's location. To some few visitors the area was attractive due to its sufficiently distant location.

Resource quality. Visitors in large numbers selected the study area on a physical resource quality comparative basis. Though remarks were often vague it was obvious that

respondents expressed a subjective appreciation for the area as a superior resource base. Cleanliness and beauty were the key words. The author notes that his comparisons between study area and Atlantic coast beaches makes him agree with a number of these visitors that cleaner and clearer water and beaches and whiter sand does prevail in the Panama City area. Cutler described the Atlantic coast pollution problem in a recreation context.[65]

Environmental amenities. The precise number of visitors is unknown who had such considerations as climate, weather, and water temperature in mind when deciding on a trip to the study area. Since so many appeared to be drawn by the stereotyped image of "fun in the sand and the sun," perhaps this is a prime example of an assumed selection factor that respondents failed to mention.

Prior experience. Seven out of ten surveyed visitors (71%) had previously visited the study area. Some visitors had been coming for as many as 50 years, though the average was 13 years (median = 10) since the first visit, with an average of 17 previous visits (median = 6). Furthermore, an estimated 90 per cent of the visitors planned to return to the area, most on another camping trip. Selection of the study area was heavily based on preferences and

attitudes evolved from prior experience (including previous visits to the area).

Many visitors had no apparent reason for not going elsewhere. They just always came and usually had been coming as a habit for several years. Most of these were so completely satisfied with the study area recreation offerings that they were unwilling to even try a change. The comments usually stressed area familiarity and implied the risk of an unsatisfactory experience at an unknown location. Others simply were totally ignorant of other similar recreation alternative locations. They expressed dismay when asked where else they might go if they were unable to visit the study area. Most of these simply were resigned to staying home if they couldn't visit the Panama City area.

A few mentioned pleasant trips to the area as youngsters or perhaps they once lived near the sea or in the study area. Often a trip was arranged to recapture a fond memory or to share a favored setting with a new mate or a growing family.

To visit. Friends and relatives were often the prime target for a visit to the area. Either as guests to the Panama City area or as distant visitors to a place within the study market area, short secondary visits to the beaches often were made.

Children's influence. Since family camping was the study focus it was not surprising to find that a number of trips were made to the area as an attempt to please children in vacation setting choice. Phrases like "children's trip" cropped up and often indicated a totally youth-planned trip.

Of course other reasons were given, but those discussed were the most dominant and often repeated. Some came for business or personal family reasons and some came only because a friend said to go there.

Tributary Area Interaction

To Ackerman, any problem in which distance is an explicit consideration is essentially a geographical problem.[66] Common to the geographical body of central place theory, as well as to the more generally applicable interaction theory, is the basic notion of distance interaction between points. As was earlier mentioned, when dealing with marketing systems it is customary to conceptualize interaction between a center and the potentially infinite number of points within its periphery or its interaction field. Such a field is theoretically considered as a continuous distribution or surface, in opposition to the actual discontinuous distribution of interacting points within the field.[67] Berry has demonstrated elements of such fields in which human spatial behavior

occurs and in which points are linked in an interaction potential system.[68]

Interaction Theory

Inherent to interaction theory and lying as an undercurrent within central place theory is the empirically observable variation of field strength with distance away from activity centers.[69] A graph of interaction on distance outward from such centers invariable produces a curve with a rapid fall-off near the activity center or zero point and with a very slow rate of reduction (fall-off of interaction) per unit of distance at the outer parts of the curve.[70] Losch's demand cone is a three dimensional surface for which such an interaction curve is a single two-dimensional radius.[71] An excellent discussion and graphical illustration of interaction gradients in a market area context is given by Brush and Gauthier.[72] Simplified, the interactance hypothesis states that interaction between two points is a negative function of intervening distance and some measure of interaction potential at the points. Consequently, the terms interactance decay and distance decay are synonyms based on a term used to describe a generally similar rate of decay of radioactive isotopes. Among the best source of concise discussion of interaction theory and its relation

to central place theory are by Berry and Pred,[73] Berry,[74] and Olsson.[75] The comments on distance functions by Chorley and Haggett also apply.[76]

Recreation application

The most basic theoretical work concerning the attenuation of recreation activity (travel) with distance has come from economists. Hotelling initiated conversation in 1929 in a paper dealing with spatial competition within a recreation context.[77] Later he devised a method of assessing the value of national park recreation experience.[78] He plotted visitor origins into distance zones and calculated an average travel cost for each distance zone. By assuming the maximum recreation value of a park to be represented by maximum travel cost incurred to make a visit, he demonstrated the proportions paying less in travel than the experience was worth, thus obtaining free recreation experience. He used a fixed cost per mile and refined travel cost by inclusion of visitor period data.

Hotelling's work preceded the most influential thoughts today expressed by Marion Clawson. Clawson, noting effects of distance on areal patterns or interaction of recreationists between their homes and selected outdoor recreation sites, has expanded on Hotelling's suggestion that a spatial model

can produce a value that can be placed on outdoor recreation experience. His method of building spatial demand curves is best discussed in one of today's most widely used books in the field, Economics of Outdoor Recreation.[79]

A fairly small number of recreation specialists have dealt with the purely spatial aspects of recreation which Clawson refers to as the geography of demand. Those few specifically dealing with friction of intervening distance and time are worth mentioning here.

The literature

Predating Clawson's work are largely nonacademic tourist travel surveys that date back to the 1920s. By 1937 some notions were formed about distance-relative activity, but understanding has changed little in travel studies since then.[80]

Deasy and Griess, in a test of the Clawson theory, stressed the inapplicability of such idealized circular market area notions in which interaction or park visits are a function of the friction of distance.[81] They plotted county visit rates on a choropleth map and discussed empirical pattern variation (with variables of accessibility, competition, regional orientations, familiarity and advertising) from the form predicted by the Hotelling-Clawson

theory. Clout also has stressed the regional factors associated with deviation from a distance decay predicted market area shape, though he did graphically demonstrate such generalized attenuation of travel with distance.[82]

It must be noted that to a large extent Clawson's purpose may be different from that of the purely spatial thinker. Clawson's concern is for spatial regularities that can be reduced to demand schedules or curves for description of recreation use of a park and for prediction of use under changes in pricing (price elasticity of demand). He is ultimately concerned with deriving economic benefit or recreation site value, as evidenced by his process (unessential to the geographer) of using distance as a proxy for price. The geographer, on the other hand, is perhaps more concerned with the irregularities as well as regularities of interaction, including demand-generating processes and their spatial ramifications. Therefore, there is need for understanding of unique regional processes as well as hidden regularities for expansion of spatial theory.

Attempts to search out these hidden regularities of recreation interaction have shown in several recreation hierarchy levels that visitation rates tend to decrease with increased distance from a focal park. A few of these locations follow: Fussell studied coastal resort visitors

in South Carolina;[83] Mitchell's dealt with city playgrounds in Ohio[84] and Columbia, South Carolina;[85] Bingham, Pickard, and Romsa dealt with visitors to a commercial Kentucky campground;[86] Guernsey and Crowe probed Lake Michigan state park visitors;[87] Cole and Mitchell worked with campers in the Great Smoky Mountains National Park;[88] and Lentnek, Van Doren and Trail published similar results of spatial behavior in Ohio recreational boating.[89] More recently, Wheeler and Stutz have applied this theory of distance attenuation of interaction to the frequency of urban social trips.[90]

Distance Interaction Hypothesis

To this point, this chapter has sought to conceptualize and identify the camping market or tributary area for the Greater Panama City area. The logic of market area shape has been pursued as has its multifaceted processes. The data mapped have been represented as a discontinuous distribution of discrete camping parties. Another dimension is gained by an analysis of the dot map data in the form of an interaction field. In order to add to the evolving literature of spatial recreation behavior a second and more generalized dimension must be pursued in this research. The objective of this section is not to ascertain whether distance has an identical

effect to other places studied in the past, but to add one more block to the continuing process of checking the role of the function of distance for consistency.

Clawson's theory is as follows:

> The volume of recreation visits to a park (or complex) is inversely proportional to distance and directly proportional to population at place of origin.[91]

In other words, frequency of visitation, or the number of visits from an area will vary positively with the area's population size and negatively with intervening distance. The working hypothesis for this analysis is that visitation is a negative function of distance.

A review of Figures 18 and 19 suggests a general decrease in dot density with increased distance outward from the study area. As earlier indicated, the dots tend to cluster and coalesce in the major urban areas where population concentrations are high. Figure 23 depicts the same 100 per cent sample of coterminous United States visitors to the study area, but in a manner selected to weight or neutralize population factors. Total visits (parties) from each county of origin were divided by population to yield a ratio of visits per thousand people living in each county.[92] Though the ratio is not precisely a weighted value, it nevertheless is hereafter referred to as population weighted

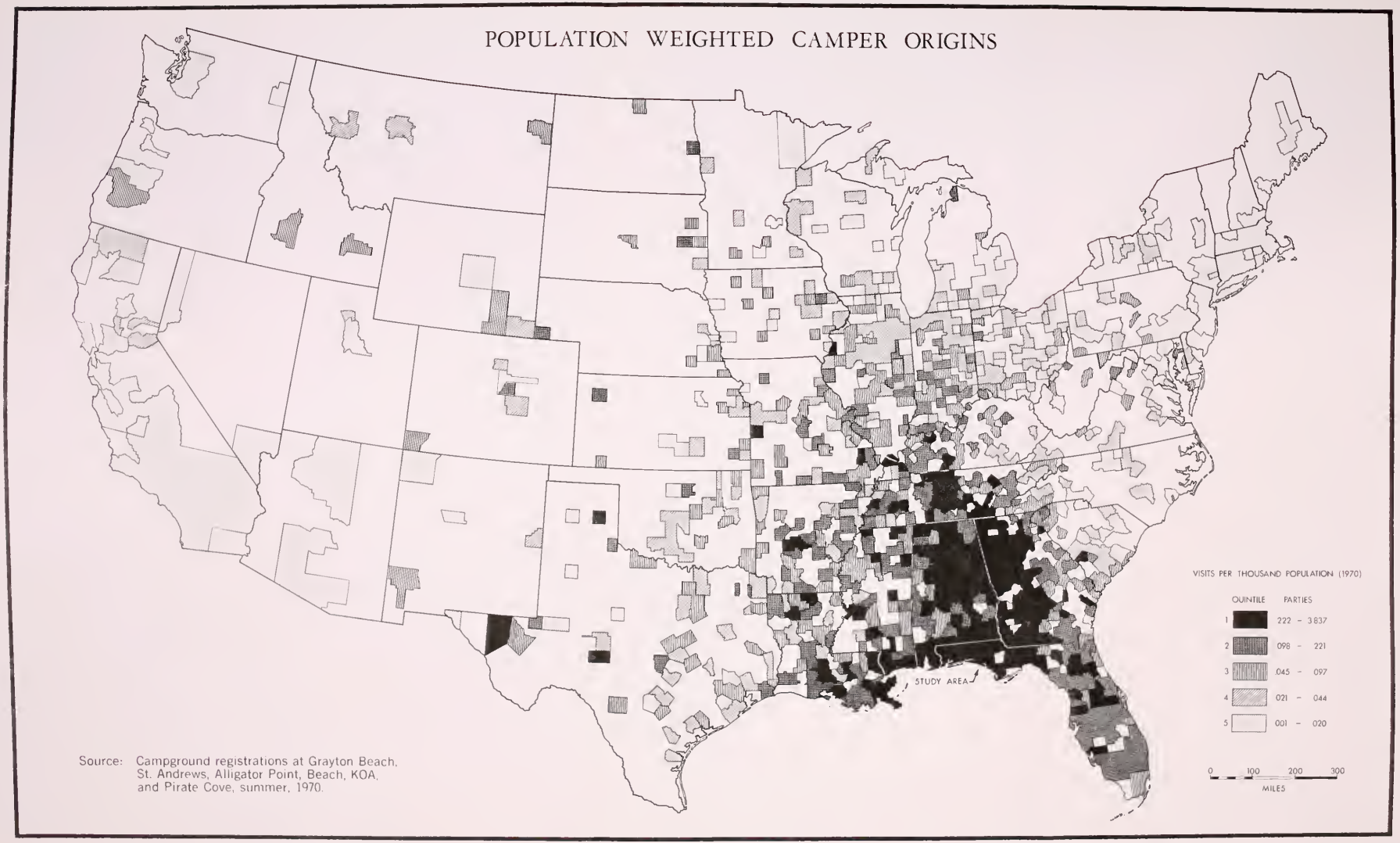

POPULATION WEIGHTED CAMPER ORIGINS
VISITS PER THOUSAND POPULATION (1970)
QUINTILE PARTIES
1 222 - 3837
2 098 - 221
3 045 - 097
4 021 - 044
5 001 - 020
STUDY AREA
0 100 200 300
MILES
Source: Campground registrations at Grayton Beach, St. Andrews, Alligator Point, Beach, KOA, and Pirate Cove, summer, 1970.

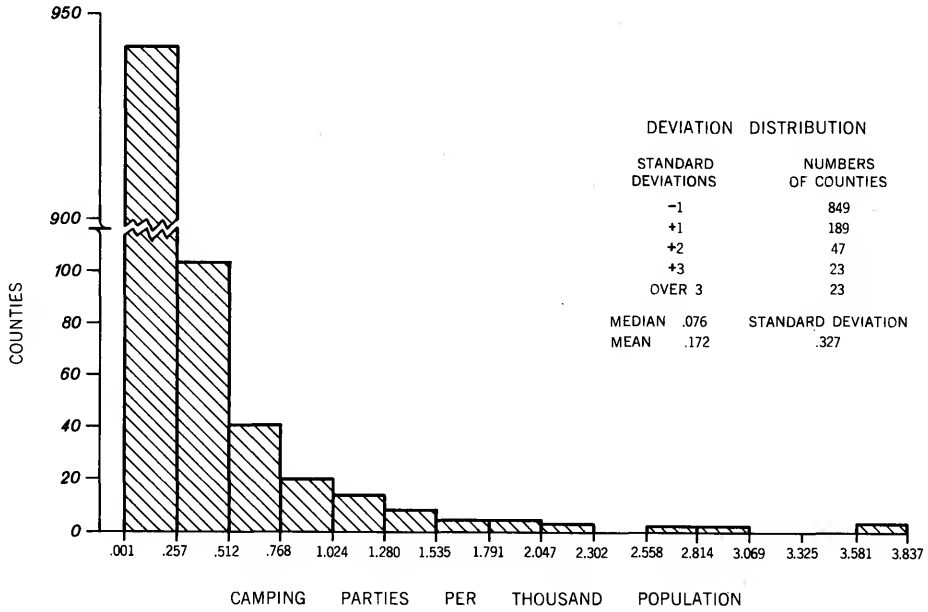
Figure 23

visits. Summer campground registrations, corrected for multiple registrations, totalled 12,052 party visits which were grouped into 1,144 counties located from coast to coast. Note that there was no way of separating terminal and non-terminal area visitors.

The data of Figure 23 are expanded by Figure 24 which shows graphically the frequency distribution of mapped counties of origin with groupings based on population weighted visits. Table 7 shows the data which are summarized in Figure 24. It will be seen (note median and mean) that the distribution is extremely positively skewed. If the interrupted column representing 937 counties were represented proportionately it would be about 16 inches high on the graph. This single interval (the standard one-fifteenth of the range) includes most of the parties broken down by quintile intervals in Figure 23. Note the number of counties falling under each sector of the "normal" curve as indicated in the deviation distribution inset.

There is nothing unanticipated in these data. The skewness is to be expected if visits are a negative function of distance. The frequency polygon derived by connecting the midpoints of the histogram column tops describes a curve that fits the usual very rapid fall-off of curves plotting interaction rate on distance. Note that distance is not a

FREQUENCY DISTRIBUTION OF POPULATION WEIGHTED COUNTIES OF CAMPER ORIGINS



DEVIATION DISTRIBUTION

STANDARD DEVIATIONS	NUMBERS OF COUNTIES
−1	849
+1	189
+2	47
+3	23
OVER 3	23

MEDIAN .076 STANDARD DEVIATION
MEAN .172 .327

Source: Campground registrations at Grayton Beach, St. Andrews, Alligator Point, Beach, KOA, and Pirate Cove, summer, 1970.

Figure 24

TABLE 7

SUMMARY DATA: FREQUENCY DISTRIBUTION OF POPULATION WEIGHTED COUNTIES OF CAMPER ORIGIN

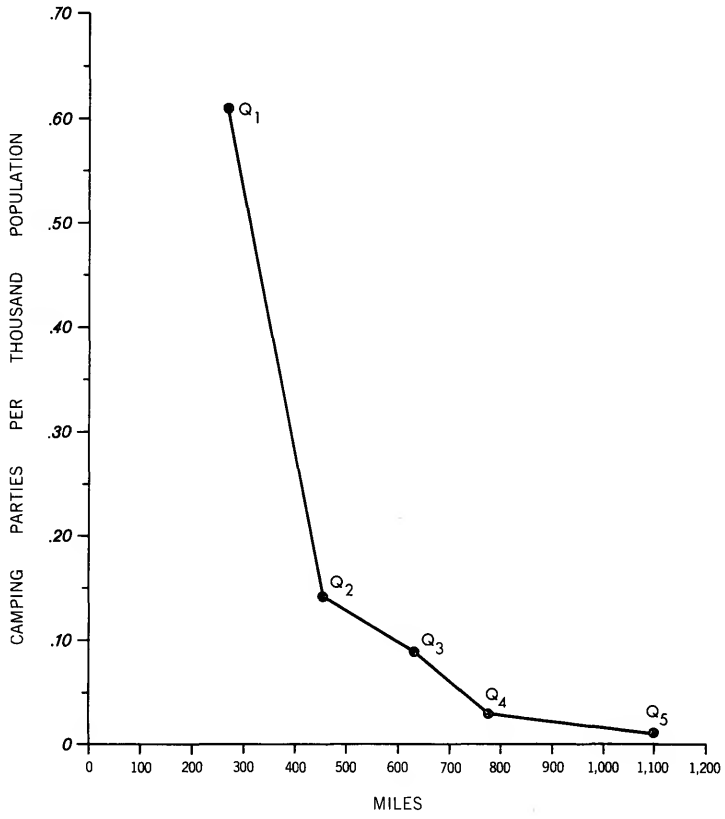
Interval Midpoint	Number of Counties
0.1278	937
0.3835	103
0.6392	40
0.8949	19
1.1506	13
1.4063	7
1.6620	3
1.9177	3
2.1734	2
2.4291	0
2.6848	1
2.9405	1
3.1962	0
3.4512	0
3.7096	2

part of these data. The logic stands that with increased distance there will be associated increased area and hence larger numbers of counties having lower visit rates. However, this is yet to be demonstrated except as it is visually possible upon examination of Figure 23.

In order to expand on the value of Figure 23, averages were calculated for distance and visits for each of the quintile groups of counties. All 1,131 counties were ranked by population weighted visits, divided into fifths and quintile average visits were calculated. Within these same intervals average distances were calculated.[93] This was done in order to reduce "noise" in the distribution from any number of sources. Note that though generally the pattern density in Figure 23 shades with distance from the study area from dark to light, there is considerable merging and interdigitation of the roughly concentric density bands. For example, quintile one, obviously the near zone of heavy study area visitation, has a distance range for counties having this visit rate that extends from 15 to 1,120 miles. The range of quintile two is 29 to 1,600 miles.

With interdigitation "noise" now removed, the bands can be generalized. Figure 25 is a curve of the quintile average coordinates discussed above (listed in Table 8) and thus complements the quintile map. An indication of the

QUINTILE AVERAGE DISTANCE OF POPULATION WEIGHTED CAMPER ORIGINS



Source: Campground registrations at Grayton Beach, St. Andrews, Alligator Point, Beach, KOA, and Pirate Cove, summer, 1970.

Figure 25

TABLE 8

SUMMARY DATA: QUINTILE AVERAGE DISTANCE
OF POPULATION WEIGHTED CAMPER ORIGINS

Quintile	Average Population Weighted Visits	Average Distance (miles)
1	.6107	269
2	.1363	456
3	.0927	631
4	.0308	773
5	.0102	1092

distribution of population weighted visitor origins can be seen. The curve anticipated by Figure 24 is discernible in Figure 25. It would appear that the hypothesis of visits being a negative function of distance holds true in the study area. However, a more precise examination is needed.

In order to examine the data more rigorously, in light of the negative distance function, it is necessary to construct some type of descriptor model. Existing types fall chiefly within the group of gravity-potential models, probability models (eg. simulation models), simple curve fitting, and various systems flow models. An excellent review of different models in use today in recreation demand description and estimation has been made by Cesario.[94]

For simplicity, it was decided to fit a simple descriptive regression model to the data. It was regarded that a one-year cross-section model of any type suffers from unknown parameter stability and should not be regarded as a predictive instrument under circumstances of these data.[95] Since the purpose of this study is not predictive model building, and since the period of study logically would preclude a definitive, carefully calibrated, and field-tested predictive model any way, it seemed reasonable to use easily duplicated and interpreted techniques. Despite implications otherwise, Schneider correctly points out that "regression analysis...is

no more than a species, and a risky one, of curve-fitting; it merely summarizes data."[96]

Ullman's geographical analog method, based on demand-predicting regression models lies at the root of this analysis.[97] Among a few others, Guthrie's stands as a good example of another which used this technique in estimating international tourist flows.[98]

The data shown in the quintile choroplethed visitor origin map (Figure 23) and in its explanatory graph (Figure 25) were plotted on a county map of the United States. Equal interval, 100-mile radial distance zones were drawn around the study area. Table 9 lists these 24 intervals or concentric visitor-origin zones. The average distance to all of the visitor origin counties in each zone was calculated, as were zone total visits, and the total population in the counties of origin within each zone. The last column lists calculated zone average ratios of study area visitors per 1,000 base population.

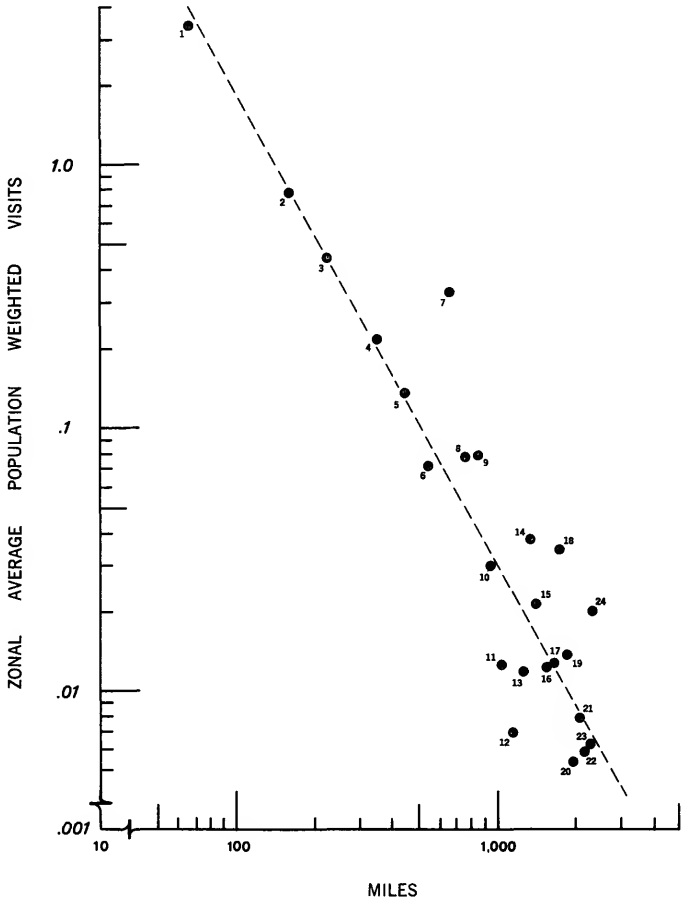
The shape of the curve on Figure 25 indicated either an exponential-decay or an hyperbolic function to the decline of visits with distance. Semilog plots were rejected for poor fit leaving a hyperbolic estimate of form. A log-log data transformation should rectify such a curve, as is demonstrated in the following logarithmic scatter diagram (Figure 26).

TABLE 9

SUMMARY DATA: DISTANCE AND VISITS

Zone	Origin Counties	Average Distance*	Total Visits	Total 1970 Population* (1,000)	Visits per 1,000 Population
1	21	65	1044	787	1.3267
2	75	160	1830	2323	.7879
3	141	255	3790	8678	.4367
4	136	353	1444	6774	.2132
5	128	455	1228	9342	.1315
6	93	558	480	6789	.0707
7	110	658	698	2116	.3299
8	130	754	459	5825	.0788
9	99	848	443	5695	.0778
10	62	950	168	5622	.0299
11	44	1046	98	7950	.0123
12	33	1147	60	8683	.0069
13	14	1255	36	3056	.0118
14	7	1339	12	354	.0339
15	3	1437	4	190	.0211
16	7	1560	18	1481	.0122
17	3	1640	9	695	.0129
18	1	1740	1	29	.0342
19	6	1868	55	4021	.0137
20	5	1954	43	7984	.0054
21	7	2075	11	1406	.0078
22	13	2155	30	5074	.0059
23	9	2269	19	3084	.0062
24	1	2320	2	102	.0197

* For counties of origin only in each zone, entered once in totals.



Source: Campground registrations at Grayton Beach, St. Andrews, Alligator Point, Beach, KOA, and Pirate Cove, summer, 1970.

Figure 26

A descriptive regression curve was fitted, but, was imprecise due to machine truncation and significant figure retention only to a decimal.[99]

A functional relationship of interaction decline with an increase in distance is variably indicated by this scatterplot of visit ratios against distance. The visit potential clearly decreases with increased distance when the nation-wide data (zero to 2,400 miles) are seen as a whole. In this logarithmically transformed state, visits are an almost perfectly-linear negative function of distance to a radius of about 600 miles from the study area. Beyond zone 6, although the trend is still present, there is a mixed function of distance-relative visit increases, equilibria, and decreases. Zones 9 through 12 appear to have a separately sloped linear function. From 12 to 25 the actual curve is an up an down zig-zag with no apparent logic.

Time Interaction Hypothesis

In 1958, many were surprised when they read the obvious implications of the post-war trends that Galbraith pulled together from seeming disassociated information.[100] He stressed the consequences of increased production efficiency (now a questionable point), decreased need to work for status maintenance, the reduced work week, and fewer workers resulting

partly from later entry and early departure from the labor force. The capstone in his comments on The Affluent Society was a description of an emerging "New Class" based on educational attainment and occupational prestige. He stressed that the leisure orientation of this group would reflect their values and the nation's recreation trends would be shifting. More recently, reinforcing the obvious truth in Galbraith's earlier prediction, has come a French view of a leisure society of growing world-wide impact.[101]

Early optimism and conjecture based on limited knowledge and short-term trend data suggested that Western man was destined ultimately for a life of constantly increasing amounts of leisure time. LaPage recently suggested that there is a need to explode this notion which he calls the "myth of increasing per capita recreation participation and leisure time."[102]

Clawson, with reservation, still sees a real trend toward net increases in leisure time which he predicts will result in a shift from a production to a consumption orientation (which can be seen today). He continues, saying "when it comes to consumption, the availability of time and the use of free time may come to be as important as the availability of income."[103] He actually predicts a substitution of money for time (especially travel time) and bases this on

the following thoughts:

> Additional amounts of income might be less highly prized than at times in the past....If the past is a good criterion, the demands for time may well rise faster than additional amounts of it are made available....Time is likely to be more frequently a greater limiting factor than income in the future, compared with the past.[104]

If time is likely to be, for many groups, the ultimate limiting factor to recreation participation, a point also agreed upon by the National Academy of Science study committee on research needs,[105] then it behooves recreation specialists to learn more of recreation-time relations. This is especially true in light of unsuccessful attempts to use travel time in empirical models--the time-specific focus of this discussion.[106]

As an expansion of distance interaction theory, it can be assumed safely that time is an interchangeable term with distance. This is particularly true in terms of the visit-distance ratios discussed earlier. Logically this assumption holds, and in model building a time surface actually is often superior to a distance surface. Consequently, in interaction and marketing studies travel time is often a substitute for distance concepts.

It has been customary for planners to use either time or mileage values as standards or reference terms for

estimating the extent of zones of influence surrounding a park or other recreation development. Miles or city blocks were traditionally used and in recent years time factors have been given more attention. Time is logically a more uniform measure because it eliminates the problems that arise when equal distances are given equal weights despite unequal frictional drag exerted upon actual travel. Any urbanite knows there is a relative time difference between ten miles across town and ten miles on the open road.

It may be suggested that several factors, including time and distance, actually influence the motorist's view of recreation-associated travel. Since this study deals with some spatial aspects of the use of a recreation complex it was necessary to inventory the spatial travel-reference attitude of the study sample of visitors to serve as a backdrop for some of the questions later to be dealt with in detail.

The survey results are not entirely satisfactory due to the problem of forcing an abstract response instead of simply eliciting a factual reply. Nevertheless, if treated tentatively, and without undue weight being placed on the proportion of response, interesting results were obtained. In a pretest several open-ended questions were found to be unsatisfactory stimuli for getting to the heart of travel

attitude terminology; consequently the following structured question was used:

> When you select a recreation area for a vacation or an outing do you measure the required travel in terms of miles, time, travel expense, or inconvenience?

Of 496 party heads answering this question, 95 per cent were able to evaluate their attitudes and state one or more specific travel reference terms. The remaining group simply claimed to have either no customary concept of travel or were unaware if such existed. One respondent was unable to generalize because he claimed his attitude varied with characteristics of the highway route. It will be noted in Table 10 that time and miles were the two most frequently stated reference terms, with time far overshadowing miles as units for conceptualizing a trip. The concept of travel time actually refers to different factors depending upon the party and the trip. Time was considered in terms of days drive, hours of driving, hours of riding, and the absolute limits of the vacation period. Miles were considered exclusively in 59 cases and in combination with the other options listed. A few were aware that they used miles as a basis for estimating travel time.

A number of people also said they considered the expense of a trip. About half of these parties claimed to consider

TABLE 10

CUSTOMARY TRAVEL REFERENCE TERMS

Term	Number Answering	Percentage Answering
Time	372	75.0
Miles	163	32.8
Expense	58	11.6
Inconvenience	19	3.8
Aware of None	27	5.4
Total	639*	128.6**

* Multiple responses are included (N = 496).

**Multiple responses account for excess over 100 per cent.

expense in exclusion of time or miles. In all but one of 19 cases listing inconvenience as a travel reference term it was considered as a joint affect with combinations of miles, time, or expense. With the exception of one man who considered the inconvenience of travel while towing a large travel trailer, all respondents mentioned the inconvenience of traveling with a large family. Many seemed to think that young children have a limited period during which they will sit in a car and still remain comfortable. After a time they begin to annoy the adult occupants of the vehicle with their irritable behavior caused by the restriction and relative inactivity of travel. No respondent mentioned inconvenience in regard to travel on different qualities of roads and with differing degrees of traffic congestion. In summary, these data indicate that from the recreationist's view, as well as from the planner's and theoretician's view, travel time is a suitable term in substitution for distance.

Wolfe is convinced by several of his studies in Ontario that under certain circumstances long-distance recreation travelers gather "momentum" that lessens or even nullifies the usually anticipated negative impact or friction of distance.[107] Such a process, if a reality, would tend to turn the standard distance decay curves into a "J" shape as the extremely distant-origin visitors increase in visit rate.

In a review of the distance and visits scatterdiagram and curve (Figure 26) it will be seen that although no "J" shape is apparent, there are considerable vertical erratics, possibly as a result of the process described by Wolfe as a reversal of the distance exponent from negative to positive. The idea is not isolated, because at least three forest recreation researchers also have witnessed and described some aspect of distance momentum.[108]

The assumption was made earlier that, in terms of travel interaction processes, distance and time are approximately interchangeable variates. Therefore, a logical extension would be to examine study area visitor data in light of Wolfe's theory and add a reinforcement to the distance interaction concepts previously discussed by examining visitor views of marginal travel time expenditures.

If Wolfe's theory of long-distance travel momentum is valid, then it should follow that travelers would exhibit a greater propensity to accept long periods of riding and driving in order to reach a destination. In addition, elementary considerations of recreation time budgets cannot be forgotten, for these factors of time also influence distance or time-travel propensity. Not only is time an immensely variable factor, with different occupation groups exhibiting different amounts and seasonal distributions of

the element, but there is little known of basic time-distance relative decision considerations involved in a single trip. It is proposed that distance-time momentum is partly a time-budgetary product.

It is further proposed that the majority of those whose travel fits the distance-time-minimizing gravitational concepts of negative friction of distance are also those who are restricted by either available or allocated trip time to more penuricus use of time. On the other hand, the "momentum" travel example may well be the person who simply has a greater allocation of time for his trip.

Therefore, the following time hypothesis can be stated:

> Increased allocation of trip or recreation time is associated with increased propensity to expend time driving to a recreation destination.

In other words, driving time is a positive function of a vacation or recreation time period.

In order to examine this hypothesis, interview data were gathered from each of 514 respondents concerning the number of days each party had free from work, the number of days they had set aside for their trip to the study area, the number of hours they had driven to get to the interview location, and the maximum number of additional hours they would have been willing to travel if they had known before

leaving home that it would take longer to drive to the Panama City area.

The data selected for analysis were exclusive of area nonterminal visitors. Furthermore, visitors with purposes for area selection other than for recreation were excluded. For example, short-distance travelers who camped with their families but went to work daily, families searching for homes in the area, etc., were excluded.

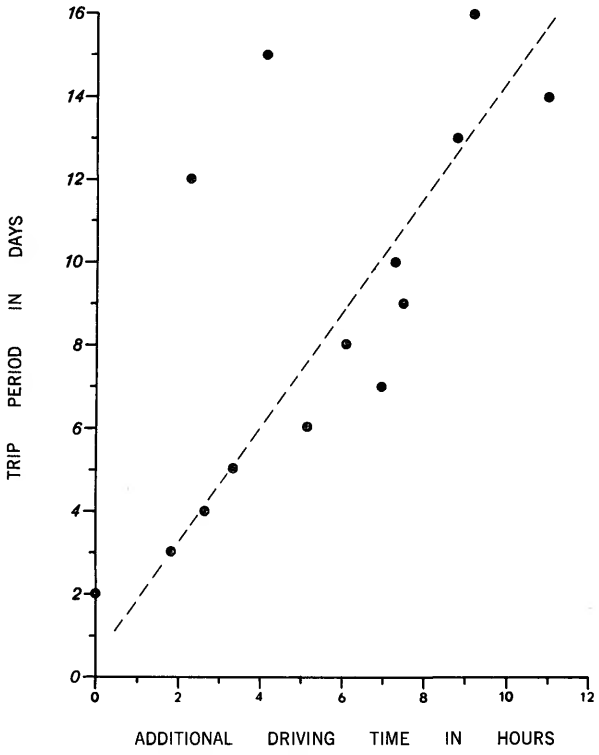
A visually verified high correlation between the periods of time away from work and away from home on the trip (trip period) to the study area allowed a choice in analysis. The latter was selected because it allowed a more meaningful time refinement for the retirees, public school teachers and others who had theoretically perpetual or very long free periods. Survey results indicated that 55 per cent of the respondents spent all available free time on their outing. Only 19 per cent spent more than two days of their vacation or free time at home. It was expected that most campers would need or prefer a variable fraction of their vacation or nonworking time in trip preparation, post-trip recuperation, and other non-trip uses of time.

Initially, a simple multiple regression was used to test the hypothesis. Trip period (X_1) and driving time (X_2) were regressed on maximum willing driving time (Y). It was found

that X_1 and X_2 were too highly correlated. That is to say, their effect on the regression was multiplicative and hence didn't meet the additive requirement of the technique. In other words, the "independent" variables could not be discussed in terms of individual relation to the dependent variable (Y).

Figure 27 summarizes sample data (See Table 11) on the relationship between these two time variables. The scatter-diagram is a plot of period of visit against coded actual driving time. Note that an overnight camping trip has a minimum time expenditure of parts of two days. In order to simplify the data, incremental averages were calculated for driving time in excess of the minimum two-day trip, for which visitors averaged about two and one-half hours of driving (one way). A standard correlation was run showing the expected minimal ($r = 0.627$) deviation of the data from a straightline relationship. Calculation of the regression line was not felt necessary for the provisional slope of the positive functional relationship is unmistakable. The cases for trips of longer duration than 16 days were too few to include on the graph; however, a summation average is indicated on Table 11. Note also the low number of parties for trip periods of 11, 12, 13, and 15 days and the associated low incremental increases in driving time in opposition to

TRIP PERIOD AND ACTUAL DRIVING TIME



Source: Stratified random sample of parties camping at Grayton Beach, St. Andrews, Alligator Point, Beach, KOA, Magnolia Beach, and Pirate Cove, summer, 1970.

Figure 27

TABLE 11

SUMMARY DATA: TRIP PERIOD
AND ACTUAL DRIVING TIME

Trip Period (days)	Hours Driving*	Number of Parties
3	1.83	23
4	2.63	16
5	3.36	22
6	5.13	32
7	6.98	65
8	6.09	32
9	7.47	62
10	7.25	24
11	-2.00	5
12	2.30	7
13	8.78	9
14	11.00	32
15	4.13	8
16	9.17	23
16+	14.00	25

*Average number of hours actually driven to study area in excess of that for a two day (i.e., minimum camping) trip.

the trend line. Either a real deviation in functional relationship is present or data limitations are here observed. In any case, the relationship of trip period and driving time is clearly that the longer a party's trip-period (perhaps to a point), the more likely they are to drive farther to a terminal recreation destination. Therefore, also, X_1 and X_2 are not independent, but are highly correlated.

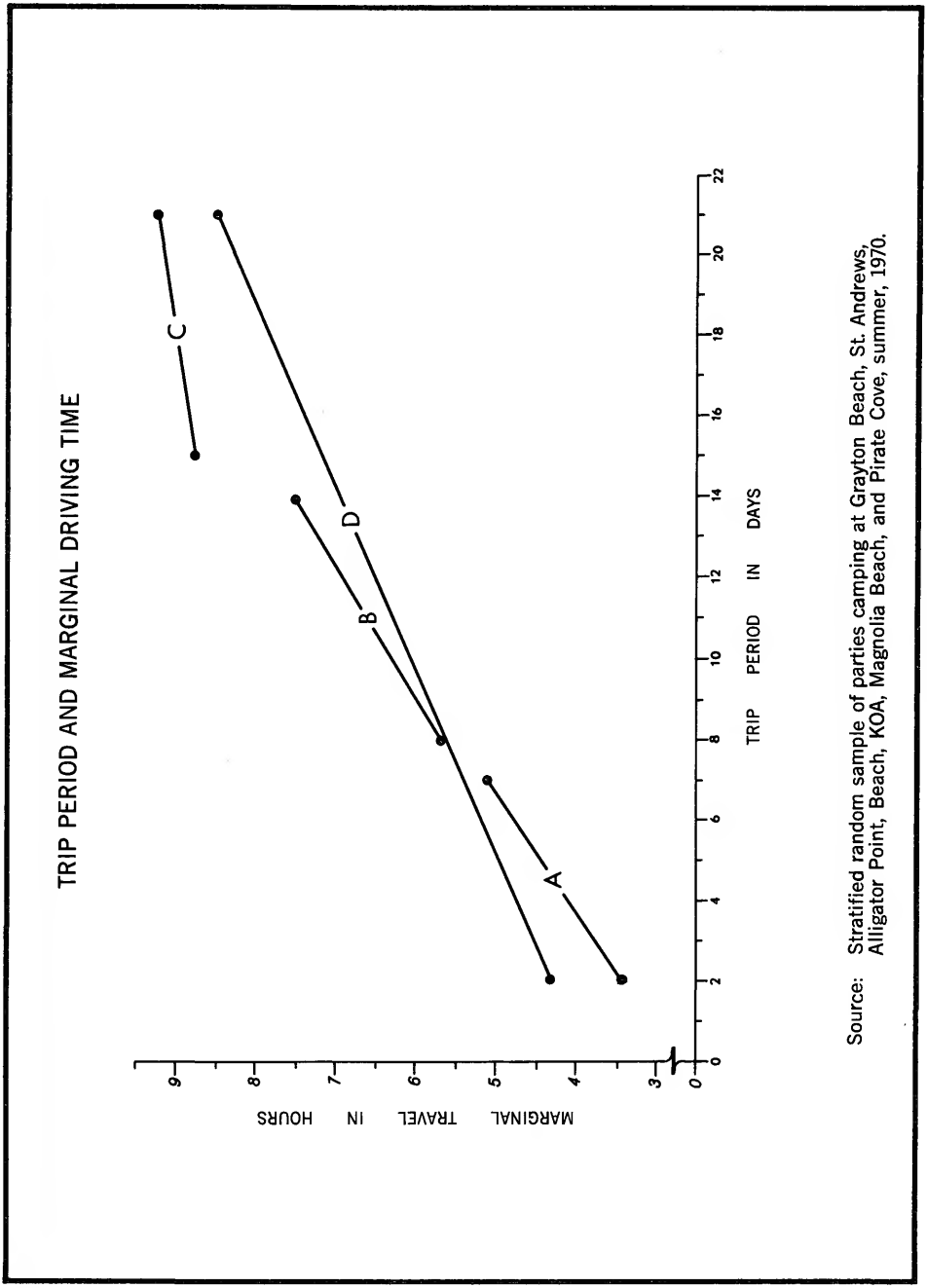
A second analysis was attempted. This time the data were grouped by trip period (X_1). At each value up to four days, the maximum number of hours each party was willing to drive above what they had already traveled (Y) was regressed on hours actually driven (X_2). This process was rejected since the partial regression coefficients were almost the same (0.1663 to 0.1690) resulting in negligible slope difference on the regression line. A third approach was used in order to search for the more general and perhaps more significant) trends.

Values of X_1 (shown in Appendix VII) were grouped into three groups: group A equalled two to seven days (one week), group B was composed of eight to 14 days, and C equalled 15 to 21. Trip periods from 22 to 32 days were omitted from analysis for seven cases were too few. Using techniques verified by Ezekiel, each group of X_1 (A,B,C, and total D) was regressed individually on Y with X_2 held constant or

stabilized for each curve by substituting its group average value for each curve.[109] Multiple regression was not possible and simple regression was inappropriate because the X variables had been shown to be part of a known whole. The result is to show the effect of X_1 at the group average value of X_2 on Y. Figure 28 shows the results of this analysis. The overall curve, for groups A, B, and C, had an R of 0.605 and R^2 of 0.367 (significant at .001%). A precise definition of the relationship between the variables in each curve was also made.[110]

As indicated by curve D, the overall trend is a positive relationship between trip period and willingness to travel increased hours to the study area. An increase in the former is associated with a specific increase in the latter. An examination of the segments of the curve indicate that from a two to a 14 day trip there is almost a continuous relationship between these travel variates. However, the plateau approached in curve C shows a much greater variation in slope than either of the nearly parallel curves A or B. This almost absence of slope is graphically indicative of no significant effect of X_1, with X_2 stabilized, on Y.

The overall results of these tests would tend to verify the time opportunity association with travel propensity hypothesis. An interesting and unsuspected feature of these



Source: Stratified random sample of parties camping at Grayton Beach, St. Andrews, Alligator Point, Beach, KOA, Magnolia Beach, and Pirate Cove, summer, 1970.

Figure 28

data is the plateau reached in the willingness-to-drive-more-hours curve discussed above. One would expect a different shape to this curve if Wolfe's theory were true. With increased driving time his theory would imply whetted appetites and greater propensity for more travel. More needs to be explored on this idea.

Summary

In summary, this chapter has examined a variety of factors related to market area shape. The specific shape of the study tributary area has been shown to be a result of competitive and noncompetitive recreation movement processes relative to perceived recreation alternatives. Hypotheses concerning perception of recreation-alternatives have shed light on the diversity of factors that recreationists bring to bear in travel-decision processes and on the variety of resource specific attitudes that recreationists harbor. Distance has been shown, in the study case, to have a negative influence on recreation travel and visit rate from specific locations. Time opportunity has been rudimentarily shown to exert an influence on hours of travel propensity. The latter might be a partial influence on long distance travel that has been shown to be associated with a reversal of distance-time friction. The diversity of questions dealt

with in this chapter is in response to their inseparable interrelatedness which demanded a multifaceted approach in order to even approach justice in treatment of one question. The next chapter is oriented toward intra-study area visitor perception of resources and factors associated with campground selection and use. If the chapter now concluded will be considered as situational in scope, then next is a chapter concerned with site factors.

NOTES

1. Marion Clawson and Jack L. Knetsch, Economics of Outdoor Recreation (Baltimore: The Johns Hopkins Press, 1966), pp. 33-36.

2. The purpose of this section is not a review but an application of central place theory. A good overview of the theory is found in Brian J. L. Berry, Geography of Market Centers and Retail Distribution (Englewood Cliffs, New Jersey: Prentice-Hall, Inc., 1967); and Brian J. L. Berry and W. L. Garrison, "Recent Developments of Central Place Theory," Papers and Proceedings, Regional Science Association, Vol. 4 (1958), pp. 107-120.

3. Walter Christaller, "Some Considerations of Tourism Location in Europe: The Peripheral Regions--Underdeveloped Countries--Recreation Areas," Papers and Proceedings, Regional Science Association, Vol. 12 (1963), pp. 95-105, quote p. 95.

4. D. R. Stoddart, "Darwin's Impact on Geography," Annals, Association of American Geographers, Vol. 56 (1966), pp. 683-698.

5. Brian J. L. Berry and Elaine Neils, "Location, Size, and Shape of Cities as Influenced by Environmental Factors: The Urban Environment Writ Large," The Quality of the Urban Environment, Harvey S. Perloff, ed. (Baltimore: The Johns Hopkins Press, 1969), pp. 253-304, especially p. 284 and pp. 292-295.

6. David C. Mercer, "The Geography of Leisure--A Contemporary Growth-Point," Geography, Vol. 55 (1970), pp. 261-273.

7. Brush and Bracey have proposed that "distinctive functional types of centers should exist in every major economic or cultural realm on the earth." John

E. Brush and Howard E. Bracey, "Rural Service Centers in Southwestern Wisconsin and Southern England," Geographical Review, Vol. 45 (1955), pp. 559-569, quote p. 559.

8. Lisle S. Mitchell, "An Empirical Study of Urban Recreation Units: Playgrounds as Central Places," Ph.D. dissertation, Department of Geography, Ohio State University, 1967; "An Evaluation of Central Place Theory in a Recreation Context: The Case of Columbia, South Carolina," Southeastern Geographer, Vol. 8 (1968), pp. 46-53.

9. Lisle S. Mitchell, "Toward a Theory of Public Urban Recreation," Proceedings, Association of American Geographers, Vol. 1 (1969), pp. 103-108.

10. H. Gardiner Barnum, Market Centers and Hinterlands in Baden-Wurttemberg, Department of Geography Research Paper No. 103 (Chicago: University of Chicago, 1966).

11. Ibid.

12. Christaller, p. 96.

13. Edwin von Boventer, "Land Values and Spatial Structure: Agricultural, Urban and Tourist Location Theories," Papers and Proceedings, Regional Science Association, Vol. 18 (1966), pp. 231-242; "Walter Christaller's Central Places and Peripheral Areas: The Central Place Theory in Retrospect," Journal of Regional Science, Vol. 9 (1969), pp. 117-124.

14. Allen K. Philbrick, "Areal Functional Organization in Regional Geography," Papers and Proceedings, Regional Science Association, Vol. 3 (1957), pp. 87-98; "Principles of Areal Functional Organization in Regional Human Geography," Economic Geography, Vol. 33 (1957), pp. 306-336.

15. Berry, ...Market Centers.

16. Clawson and Knetsch, p. 37.

17. Peter Haggett, Locational Analysis in Human Geography (New York: St. Martin's Press, 1966), pp. 40-41.

18. Raymond E. Murphy, The American City (New York: McGraw-Hill, 1966), p. 52; and Emrys Jones, Human Geography (New York: Praeger, 1964), p. 211.

19. Murphy reproduced an excellent cartographic representation by Ullman of the variation in area and shape of some of the separate service areas of Mobile, Alabama. See Edward L. Ullman, "Mobile: Industrial Seaport and Trade Center" Ph.D. dissertation, University of Chicago, 1943, Figure 7 reproduced in Murphy, p. 56.

20. Though some work has verified the existence of such nested service areas for a park, probably more attention has been given the city recreation hinterland with its day-use zone and overnight and weekend zones beyond. In an attempt to summarize some of these concepts an O.R.R.R.C. report stated that the median distance traveled to outdoor recreation sites for overnight or a weekend stay was between 90 and 125 miles. U. S. Outdoor Recreation Resources Review Commission, Shoreline Recreation Resources of the United States, Study Report 4 (Washington, D. C.: Government Printing Office, 1962), p. 5. A good discussion of these concepts is found in George W. Cornwell, "Conducting a Feasibility Study for a Proposed Outdoor Recreation Enterprise," Guidelines to Planning, Developing and Managing Rural Recreation Enterprises, Bulletin 301, Cooperative Extension Service (Blacksburg: Virginia Polytechnic Institute, 1966), pp. 97-121.

21. Haggett, p. 40; Berry, ...Market Centers, p. 15.

22. Berry, ...Market Centers, p. 127.

23. Edwin H. Draine, Import Traffic of Chicago and Its Hinterland, Department of Geography Research Paper No. 81 (Chicago: University of Chicago, 1963), p. 5.

24. Haggett, p. 41.

25. This represents a 100 per cent visitor sample of a variably defined (January to December, October to September, etc.) year at Alligator Point, Beach, and Pirate Cove campgrounds. Extending from April 4 to September 22, the K.O.A. sample, for practical purposes, encompassed a year's business. Data was

unavailable at Magnolia. Spring and Summer (April 1 through September 19) use of St. Andrews, and only summer visitors to Grayton Beach (June 6 through September 22, 1970) were included.

26. Among the best known are those by Lucas, for example, Robert C. Lucas, "Wilderness Perception and Use: The Example of the Boundary Waters Canoe Area," Natural Resources Journal, Vol. 3 (1963), pp. 394-411. Less known, but significant, are several research reports and notes prepared by the various experiment stations of the U. S. Forest Service.

27. Good reviews are found in David Lowenthal, ed., Environmental Perception and Behavior, Department of Geography Research Paper No. 109 (Chicago: University of Chicago, 1967); L. J. Wood, "Perception Studies in Geography," Transactions, Institute of British Geographers, No. 50 (1970), pp. 129-142; and Thomas F. Saarinen, Perception of Environment, Resource Paper No. 5 (Washington, D. C.: Association of American Geographers, 1969).

28. It will be noted that this is similar to the economist's least cost (site and transfer) location. Most significant similar work being done in economics builds on simple intervening distance concepts with a constant distance multiplier used to transform miles to travel cost. Therefore, these studies essentially deal with the same distance interaction concept. However, since the purpose of this study is oriented to numbers of people, not revenue, the unnecessary dollar constants have been removed. See Clawson and Knetsch.

29. U. S. National Park Service, Parks for America (Washington, D. C.: Government Printing Office, 1964); and Woodall's Trailering Parks and Campgrounds (Highland Park, Illinois: Woodall Publishing Co., 1970).

30. Beach camping in Alabama is located only at Gulf Shores. The Gulfport-Biloxi area has the only beach camping in Mississippi. Ibid.

31. Since many dots would have required overplot, location error resulted from the combination of map scale and dot spreading.

32. Haggett points out that market areas are never truly circular, or ascribe to a tight theoretical shape, for the normative field for centers that are packed within a region tends toward an "irregular amoeba-like" shape. Haggett, p. 43.

33. August Losch, The Economics of Location, translated from the Second Revised Edition by W. H. Woglom with W. F. Stolper (New Haven: Yale University Press, 1954), p. 13.

34. F. W. Morgan, Ports and Harbours (London: Hutchinson House, 1952); Guido G. Weigend, "Some Elements in the Study of Port Geography," Geographical Review, Vol. 48 (1958), pp. 185-200.

35. For example, N. R. Elliott, "Hinterland and Foreland as Illustrated by the Port of the Tyne," Transactions, Institute of British Geographers, No. 47 (1969), pp. 153-170.

36. For example, Henry M. Kendall, "Fairs and Markets in the Department of Gers, France," Economic Geography, Vol. 12 (1936), pp. 351-358.

37. For example, R. G. Golledge, "A Model of Marketing Behavior: The Case of Hog Marketing in East-Central Iowa," J. V. Minghi, ed., The Geographer and the Public Environment, B. C. Geographical Series No. 7 (Vancouver: Tantalus Research Ltd., 1966), pp. 91-97.

38. For example, see John E. Brush and H. L. Gauthier, Jr., Service Centers and Consumer Trips, Department of Geography Research Paper No. 113 (Chicago: University of Chicago, 1968).

39. Golledge, pp. 91-97.

40. E. M. Hoover, The Location of Economic Activity (New York: McGraw-Hill Book Company, 1948), p. 54.

41. Haggett, pp. 45-46.

42. Losch, pp. 414-420.

43. Jones provides a salient discussion of the historical witness of man's selection of routes of easy, rather

than steep, gradient causing location preferences for passes, rivers, valleys, etc. Jones, p. 214.

44. Losch, pp. 414-420.

45. Bryan H. Massam, "A Note on Shape," Professional Geographer, Vol. 22 (1970), pp. 197-199; quote p. 197.

46. This type of flow, or cumulative frequency, map was used extensively by Gould to show transportation and commodity flow. See Peter R. Gould, The Development of the Transportation Pattern in Ghana, Northwestern University Studies in Geography No. 5 (Evanston, Illinois: Northwestern University, 1960); see also F. J. Monkhouse and H. R. Wilkinson, Maps and Diagrams (London: Methuen and Co., 1963), pp. xix, 254-257, 370-372 and 432.

47. Fred Lukermann, "Empirical Expressions of Nodality and Hierarchy in a Circulation Manifold," East Lakes Geographer, Vol. 2 (1966), pp. 17-44, reprinted in B. J. L. Berry and F. E. Horton, eds., Geographic Perspectives on Urban Systems (Englewood Cliffs, New Jersey: Prentice-Hall, 1970), p. 170.

48. For example, see James R. Kittle et al., Outdoor Recreation in North Dakota, Bulletin No. 459, Agricultural Experiment Station (Fargo, North Dakota: North Dakota State University, 1965), p. 24.

49. James M. Bingham, C. E. Pickard and G. H. Romsa, "Population Numbers, Population Density, Per Capita Income and Distance as Functions of Commercial Camping at Bowling Green, Kentucky," Virginia Geographer, Vol. 5, No. 2 (1970), pp. 9-11.

50. See, for example, L. Harrington, "Newfoundland Rediscovered," Canadian Geographical Journal, Vol. 68 (1964), pp. 132-143; and William L. Garrison, "Connectivity of the Interstate Highway System," Papers and Proceedings, Regional Science Association, Vol. 6 (1960), pp. 121-137.

51 Haggett, pp. 181-182.

52. John Piperoglou, "Identification and Definition of Regions in Greek Tourist Planning," Papers and Proceedings, Regional Science Association, Vol. 18 (1966), pp. 169-176.

53. George F. Deasy and Phyllis R. Griess, "Impact of a Tourist Facility on Its Hinterland, Annals, Association of American Geographers, Vol. 56 (1966), pp. 290-306.

54. Bingham et al., pp. 9-11.

55. Harold W. Guthrie, "Demand for Tourist's Goods and Services in a World Market," Papers and Proceedings, Regional Science Association, Vol. 7 (1961), pp. 159-175, especially p. 168.

56. Ibid.

57. Harold M. Rose, Social Processes in the City: Race and Urban Residential Choice, Resource Paper No. 6 (Washington, D. C.: Association of American Geographers, 1969), p. 6.

58. Russell B. Adams, "U. S. Metropolitan Migration: Dimensions and Predictability," Proceedings, Association of American Geographers, Vol. 1 (1969), pp. 1-6, map on p. 3.

59. Torsten Hagerstrand, "On Monte Carlo Simulation of Diffusion," W. L. Garrison and D. F. Marble, eds., Quantitative Geography, Part I: Economic and Cultural Topics, Studies in Geography Number 13 (Evanston: Northwestern University Press, 1967), pp. 1-32, quote p. 7.

60. Ibid., p. 20; and Peter R. Gould, Spatial Diffusion, Resource Paper No. 4 (Washington, D. C.: Association of American Geographers, 1969); Lawrence A. Brown, Diffusion Processes and Location, Bibliography Series No. 4 (Philadelphia: Regional Science Research Institute, 1968).

61. The author recognizes inherent data drawbacks. One set of data for one region and one resource location is inadequate to generalize effectively for a nation

of recreation seekers. Also, the data only deal with a set of campers. No idea is available concerning the attitudes of other activity groups, which may or may not be similar. However, it is assumed that a camping selection is some what cross-sectional of the major outdoor recreation body of participants.

62. Robert D. Campbell, "The Geography of Recreation in the United States," Ph.D. dissertation, Clark University, 1949, p. 91.

63. The classification, though arbitrary and subjective, is made more credible through inclusion of all common responses. There is no arbitrary division based on numerical rank (age, income, participation rate, etc.). As in rounding numbers to significant digits, it is always necessary to bear in mind that subjective survey responses based on individual differences in ability to express subjective evaluations (of unique perceptions) have a significance level beyond which refinement in reporting may be nonsense. Furthermore, regardless of methods or degree of objective sophistication, it becomes apparent that grouping or classifying becomes basically a subjective process according to R. J. Johnston, "Choice in Classification: The Subjectivity of Objective Methods," Annals, Association of American Geographers, Vol. 58 (1968), pp. 575-589.

64. Samuel Z. Klausner, "A Paradigm of Social Research," Appendix A, Outdoor Recreation Research (Washington, D. C.: National Academy of Sciences, 1969), pp. 61-69, quote p. 65.

65. Richard O. Cutler, "Amelia Island, Florida: A Geographic Study of Recreation Development," Ph.D. dissertation, Department of Geography, University of Florida, 1965, pp. 64-67.

66. Edward A. Ackerman, Geography as a Fundamental Research Discipline, Department of Geography Research Paper No. 53 (Chicago: University of Chicago, 1958).

67. Haggett, pp. 40-41.

68. Brian J. L. Berry, "Interdependency of Spatial Structure and Spatial Behavior: A General Field

Theory Formulation," Papers and Proceedings, Regional Science Association, Vol. 21 (1968), pp. 205-227.

69. Gerald Hodge, "The Prediction of Trade Center Viability in the Great Plains," Papers and Proceedings, Regional Science Association, Vol. 15 (1965), pp. 87-115.

70. Haggett, pp. 40-41.

71. Losch, p. 106.

72. Brush and Gauthier.

73. Brian J. L. Berry and Allen Pred, Central Place Studies: A Bibliography of Theory and Applications, Bibliography Series No. 1, with supplement (Philadelphia: Regional Science Research Institute, 1965).

74. Berry, ...Market Centers.

75. Gunnar Olsson, Distance and Human Interaction, Bibliography Series No. 2 (Philadelphia: Regional Science Research Institute, 1965).

76. R. J. Chorley and Peter Haggett, Models in Geography (London: Methuen, 1967), especially pp. 559-561.

77. H. Hotelling, "Stability in Competition," Economic Journal, Vol. 41 (1929), pp. 52-53.

78. The method is discussed in Andrew H. Trice and S. E. Wood, "Measurement of Recreation Benefits," Land Economics, Vol. 34 (1958), pp. 195-207. See also in the same volume pp. 365-370.

79. Clawson and Knetsch.

80. L. E. Peabody and I. M. Spasoff, "Tourist Travel in the United States," Public Roads, Vol. 18, No. 6 (1937), pp. 101-116.

81. Deasy and Griess, pp. 290-306.

82. Hugh D. Clout, "Second Homes in the Auvergne," Geographical Review, Vol. 61 (1971), pp. 530-553.

83. Richard Russell, "Recreation and the South Carolina Coast," Southeastern Geographer, Vol. 5 (1965), pp. 48-56.

84. Mitchell, "An Empirical ...."

85. Mitchell, "An Evaluation...," pp. 46-53.

86. Bingham et al., pp. 9-11.

87. Lee Guernsey, and Dennis R. Crowe, "Some Attitudes and Characteristics of Visitors to State Parks Along Lake Michigan," Proceedings of the Indiana Academy of the Social Sciences, Vol. 2 (1967), pp. 1-24.

88. Robert L. S. Cole, Jr. and Lisle S. Mitchell, "Attendance as a Negative Function of Distance, Great Smoky Mountains National Park Campgrounds," Southeastern Geographer, Vol. 9 (1969), pp. 13-24.

89. Barry Lentnek, Carlton S. Van Doren and James R. Trail, "Spatial Behavior in Recreation Boating," Journal of Leisure Research, Vol. 1 (1969), pp. 103-124.

90. James O. Wheeler and F. P. Stutz, "Spatial Dimensions of Urban Social Travel," Annals, Association of American Geographers, Vol. 61 (1971), pp. 371-386.

91. Marion Clawson, Land and Water for Recreation (New York: The Johns Hopkins Press, 1963), p. 58.

92. Note that where cities were given separately from the county population in which they are located the two were summed to conform to the majority of city-county population figures. For example, San Francisco, Baltimore, Norfolk, St. Louis, etc., were merged with their respective counties.

93. A small uncorrected inaccuracy in distance results from use of an Albers conic projection for straight line measurement.

94. Frank J. Cesario, Jr., "Operations Research in Outdoor Recreation," Journal of Leisure Research, Vol. 1 (1969), pp. 33-51.

95. E. Philip Howrey, "On the Choice of Forecasting Models for Air Travel," Journal of Regional Science, Vol. 9 (1969), pp. 215-224.

96. Morton Schneider, "Gravity Models and Trip Distribution Theory," Papers and Proceedings, Regional Science Association, Vol. 5 (1959), pp. 51-56, quote p. 52.

97. Edward L. Ullman, "Geographical Prediction and Theory: The Measure of Recreation Benefits in the Meramic Basin," in Saul Cohen, ed., Problems and Trends in American Geography (New York: Basic Books, Inc., 1967), pp. 124-145.

98. Guthrie, pp. 159-175.

99. A log-log rectification of the hyperbolic data was subjected to linear regression analysis with suitable interval weights yielding a descriptive regression model of the shape Log Y = log 4.4175 - 2.0052 log X (standard error of the estimated regression coefficient = 0.002309, with "t" significant at the .001 per cent level). For the techniques used see Mordecai Ezekiel, Methods of Correlation Analysis (New York: Wiley, 1930), Appendix I, pp. 357-365; and M. Ezekiel and K. A. Fox, Methods of Correlation and Regression Analysis (New York: Wiley, 1959).

100. John K. Galbraith, The Affluent Society (New York: Houghton Mifflin, 1958), especially Chapter 24.

101. Joffre Dumazedier, Toward a Society of Leisure, translated by Stewart E. McLure (New York: The Free Press, 1967).

102. Wilbur F. LaPage, "The Mythology of Outdoor Recreation Planning," Southern Lumberman, Vol. 221 (1970), pp. 118-121, quote p. 119.

103. Marion Clawson, "Economics and Environmental Impacts of Increasing Leisure Activities," Future Environments of North America, eds. F. F. Darling and J. P. Milton (New York: The Natural History Press, 1966), p. 258.

104. Ibid., pp. 258-259.

105. National Academy of Sciences, Outdoor Recreation Research (Washington, D. C.: National Academy of Sciences, 1969), p. 38.

106. Ibid.

107. Roy I. Wolfe, "Economic Development," Canada: A Geographical Interpretation, ed. John Warkentin (Toronto: Methuen, 1968), pp. 226-227; also "Communication," Journal of Leisure Research, Vol. 2 (1970), pp. 85-87.

108. David A. King, "Characteristics of Family Campers Using the Huron-Manistee National Forests," Research Paper LS-19 (St. Paul, Minnesota: Lake States Forest Experiment Station, 1965), p. 10; Robert C. Lucas, "User Evaluation of Campgrounds on Two Michigan National Forests," Research Paper NC-44 (St. Paul, Minnesota: North Central Forest Experiment Station, 1970), p. 8; and George W. Orning, "Private Pleasure Boating in the National Forests of Minnesota," Research Note NC-15 (St. Paul, Minnesota: North Central Forest Experiment Station, 1966), p. 4.

109. Ezekiel, pp. 357-365.

110. Curve A, $Y = 2.7509 + 0.3352X_1$; Curve B, $Y = 3.2366 + 0.3070\ X_1$;
Curve C, $Y = 7.4565 + 0.0845X_1$; Curve D, $Y = 3.9298 + 0.2161\ X_1$.
Note also that a single true curve could have been derived by fitting a second degree function but for ease of discussion, explanation, and replication this method was selected. Barnum elected the method of fitting a series of straight curves to segments of a curve showing relationship between number of retail establishments and central functions. Barnum, p. 43.

CHAPTER V

CAMPGROUND PERCEPTION AND SELECTION

To this point the discussion has stressed tributary area interaction processes. Considerable attention was given to visitor perception of resource interchangeability and préferences as these affected selection and choice of the study area from among alternate locations of similar and dissimilar recreation resources. The objective of this chapter is to continue this exploration into camper attitudes and perceptions but to focus on factors associated with specific campground selection within the general resource setting of the study area. In addition, a few alternatives to present public recreation policy also will be proposed. Again, it must be stressed that the study objective is not an exhaustive and definitive discourse on all variables that might be brought to bear on the problem, but instead the goal is a selectively exploratory insight into perceptual process and resource use within the confines of the study area and the sample. Any real significance to such a study lies in the understandings gained of the reasons for the distribution of campers in space.

It has been common within the outdoor recreation literature, particularly that concerning family camping, to conceptualize recreation resources in roughly defined separate management and use categories. Thus, studies have been made of camping and recreation in particular national forests, large reservoirs, national parks, state parks and other land management areas. Generally it is assumed that some factor (or factors) accounts for visitor selection of a particular level in a hierarchy of recreation area alternates. The author knows of no attempt to ascertain the identity of this hierarchy-level selection factor or complex of factors. Furthermore, when studies have been made of the selection process behind choice of campgrounds within a single area it often has tended to focus on real differences in the natural resource base and on real differences in ease of accessibility. Thus, campground use within an area has been correlated with proximity to recreation water and other factors.[1] Other studies have contrasted use of auto accessible campgrounds with those enjoyed only by shouldering a pack and hiking into an area.[2]

On the other hand, only a few studies have dealt with more subtle perceived differences associated with selection of a campground from among area alternates with a high degree of resource and physical access similarity. Hecock's

study of day-use and vacationing visitors to different Cape Cod beaches is perhaps the most noteworthy from a resource standpoint.[3] He concluded that beach crowding, facility development, and relative external development were decisive in visitor selection of particular beaches. Shafer and Thompson have associated campground use with distance from nearby tourist attractions.[4] A few have examined such variables as size of the campground (number of campsites), density of overstory or shade, and factors associated with camp selection by preference in management type (i.e., private-commercial or public).[5]

Therefore, the major question or problem dealt with in this chapter is the following: On what basis do campers select one campground over another within the resource setting of the study area? Note that the study area is dealt with as a whole, or as a sectored and variably developed complex within a basically constant resource setting.

It was considered that visitors had arrived at their area destination when they turned onto US 98 from US 331 near Grayton Beach or when they arrived at Panama City via US 231 or another route (See Figure 20). Distance from the visitor's home to his terminal campground, therefore, was not considered as a factor of intra-area campground

selection. Hecock explored this point and found that since most of the vacationers visiting Cape Cod traveled fairly long distances to reach the area, it mattered little whether they traveled an extra hour beyond the barge canal at the cape neck. Selection of vacation lodging place was based on factors other than distance access from home.[6] Thus, the analysis assumption that all campground locations have equal accessibility to point of visitor origin appears reasonable by analogy. Therefore, accessibility must be defined in other relative terms.

Camping Attitudes

The focus of this entire chapter is on factors of campground selection. It must be stressed that underlying participant attitudes toward camping (purposes, goals, and anticipated benefits associated with camping) are the balance weights placed on the decision making scales that weigh satisfaction potentials of perceived campground alternates.

Therefore, before examining factors of intra-area campground selection it is worthwhile to seek an overview of basic attitudes that in this particular case study were incorporated into the selection process. Area visitors' stated reasons for participation in camping are summarized

in Table 12. Most of the responses were results of contrasts between motels and other lodging options. It will be noted that a variety of reasons were given for participation in camping. As can be seen, people pursuing some of the different goals could easily fit together in a single campground; however, some might less clearly fit congruously. For example, a place filled with active noisy socializing campers may less easily satisfy needs of a couple seeking quiet relaxation and communion with nature.

Examples of similar findings from a collection of sociological studies are also pertinent. ORRRC studies, for example, revealed similar reasons why people camp.[7] The goals of wilderness campers were found to be to get away from civilization and to observe nature. Other types of campers had reasons grouped into the following categories: esthetic-religious, health, sport-play, sociability, and response to a pioneer spirit.

Others have discussed theories labeled with the terms compensatory (urban avoiding), familiarity (childhood experience based), and personal community (social circle influence).[8] In a literature review of camping satisfactions and motivations, Bultena and Klessig observed that different groups of campers fall into continuums between contrasting polar views--a few pairs of which are, for example:

TABLE 12

REASONS FOR CAMPING

Expressed Reason (In order to:)	Sample Percentage Responding*
Economize	59
Enjoy outdoors and nature	43
Experience a change of pace from daily routine	32
Reinforce family unity by sharing experiences in a neutral setting	21
Relax	14
Participate in various activities (eg. fish, swim, boat, hunt, tour, hike)	14
Socialize with other campers	10
Enjoy informality of setting	9
Have greater travel flexibility	9
Enjoy greater comfort and convenience (usually a response of trailer campers)	8
Have greater freedom of movement (especially for children)	6
Pursue camping as a hobby or retirement activity	5
Avoid unliked motels	5
Provide educational experience for children	4

*Sample of 514, with multiple responses.

gregarious-isolation, active-passive, primitive-convenience, and nature-social.[9] Appendix VI, Klausner's recreation paradigm, contains the literature's most complete view of these various attitudes and motivations. Furthermore, these views by Klausner form the root of the contrasting discussion in the next part of this chapter.

Campground Selection Factors

The preceding chapter demonstrated an area selection process that involved comparison of variables of perceived resource nonhomogeneity. It is, therefore, by extension, reasonable to assume the following working hypothesis. Campground selection is a dual function of (1) visitor perception of nonhomogeneity of the physical and cultural setting (internal and external) of a campground (i.e., site perception), and (2) recreation preferences and their underlying attitudes, goals, etc. (reasons for camping). An extension of this logic allows the formulation of a secondary hypothesis that such a relationship between preference and perception should result in a gathering of visitors sharing specific attitudes and conclusions within specific campgrounds. That is to say, that people searching for a certain camping experience (within an area) should gather at the same campground. This assumes that all concerned know

precisely what are their needs and also have similar perception of the array of alternatives. It is at this point that the logic begins to crumble.

However, for analysis, such a perfect information system and perceptual response may be assumed. Consequently, to demonstrate differences between the settings of several campgrounds would be to predict setting-specific gatherings of campers in each. Setting-specific users have been tacitly assumed in most studies of recreation environmental perception and preference, or the notion simply has been neglected.

Therefore, it was hypothesized that campgrounds within the study area attract visitors who have perceived in common certain advantages or potentials within and surrounding each campground. The following anticipated reasons for camping (refer to Table 12) were used as a spring-board for a search for campground clustering based on setting-specific attitudes and perceptions: to enjoy the outdoors and nature, to relax, to socialize, and to participate in various activities.

Klausner's paradigm also offered a reinforcing logic to the search (See Appendix VI). An elemental component of this paradigm is his contrast in direction of social movement within outdoor recreation participation. Klausner

proposed that some people obey a gregarious tendency and gather together for social contact as a recreation experience enhancement (i.e., centripetal social movement). Others shun crowds and human contact in varying degrees and seek isolation (i.e., centrifugal social movement). It is easy to equate centrifugal social movement, at one extreme, with the wilderness experience and communion with nature on a primitive survival level.

A number of studies have been made of such orientations in association with wilderness recreation. Hendee and others have described a scale of "wilderness-purist" orientations among outdoor recreationists that extends from a "wildernism" pole to an opposite "urbanism" attitude toward nature and the outdoors.[10] A later comment by Hendee indicated that he saw application of this continuum concept all the way from wilderness back-packers to auto campers in developed park areas (the group dealt with in this discussion).[11]

Application of Hendee's "wildernism-urbanism" continuum would also suggest a range, opposite the centrifugal pole, within the needs and propensities of study area campers. This would result in some clustering of campers having centripetal gregarious tendencies and orientations toward the urban-similar camping experience (with its conveniences and sophisticated excitement).

Setting Variation

However, the setting-specific camper clustering hypothesized for the study area should only exist if a range of campground settings from the urban toward the wilderness-type is present. This has yet to be demonstrated.

Chapter III described the linear operational study area. The discussion of primary study selection rational should be reviewed, particularly the subjective park development-isolation ranking (Table 3). In this section it will be noted that park polarity was tentatively established and Grayton and St. Andrews were therefore selected for study. The section of Chapter III dealing with recreation land use in 1970 is now particularly pertinent, especially as it expands on the locational aspects of the base map (Figure 7) and includes a descriptive land use traverse (Figure 8). Note also the descriptions of internal and external settings of the private campgrounds included in this study. It is assumed that these descriptive passages are sufficient, without repetition, for continuation of the present theoretical discussion. In order to demonstrate intensity of development or density of land use in the study area another dimension was needed which could not conveniently be shown on Figure 8. Two linear profile graphs (Figures 29 and 30) were constructed to show study area internal variation in intensity

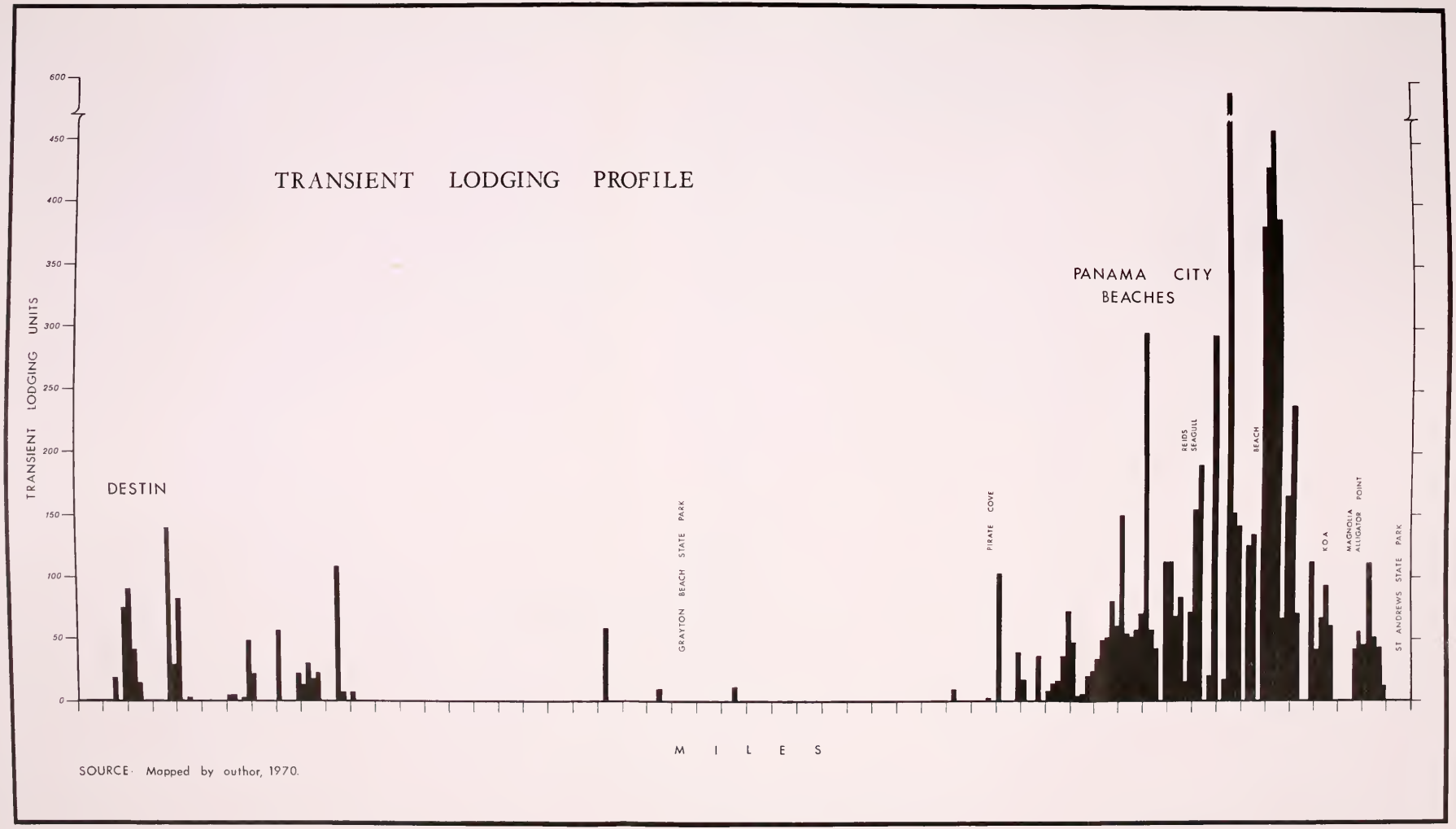

TRANSIENT LODGING PROFILE
TRANSIENT LODGING UNITS
600
450
400
350
300
250
200
150
100
50
0
DESTIN
GRAYTON BEACH STATE PARK
PIRATE COVE
PANAMA CITY BEACHES
REIDS SEAGULL
BEACH
KOA
MAGNOLIA ALLIGATOR POINT
ST ANDREWS STATE PARK
M I L E S
SOURCE: Mapped by author, 1970.

Figure 29

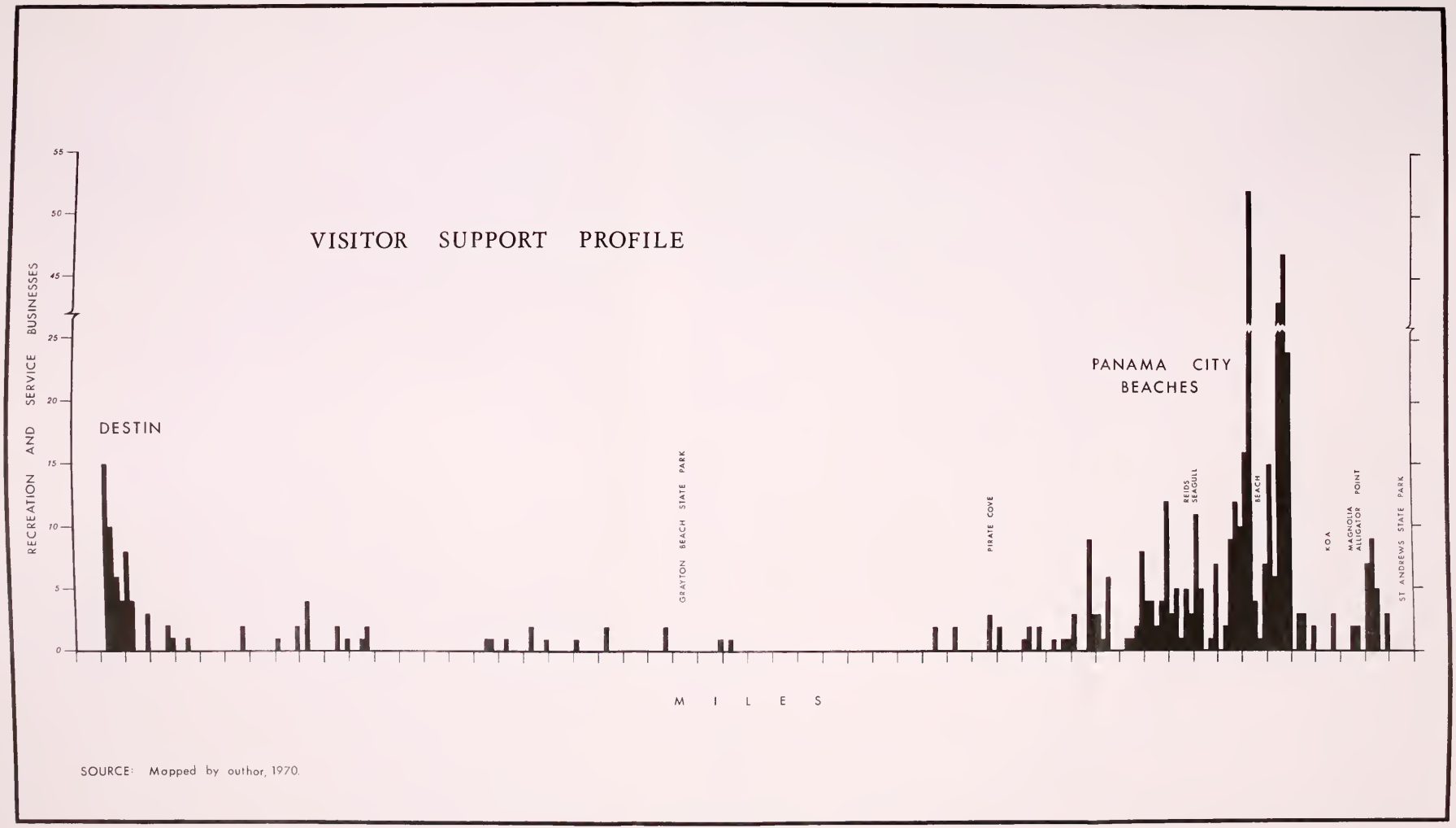

VISITOR SUPPORT PROFILE
RECREATION AND SERVICE BUSINESSES
55
50
45
25
20
15
10
5
0
DESTIN
GRAYTON BEACH STATE PARK
PIRATE COVE
PANAMA CITY BEACHES
REIDS SEAGULL
BEACH
KOA
MAGNOLIA ALLIGATOR POINT
ST ANDREWS STATE PARK
M I L E S
SOURCE: Mapped by outhor, 1970.

Figure 30

of recreation oriented land use. Both graphs were constructed from data collected by one-fifth mile units. All traversed highway routes were collapsed or contracted along the north-south axis leaving east-west oriented relative development profiles. Horizontal scaling is by miles with no numerical designation since no single terminal point exists. Now identifiable is the spatial variable of relative location of campgrounds to their surrounding developed recreation and service lands.

Not only do Figures 29 and 30 effectively add the dimension of density, but they are designed to selectively eliminate "noise" or extraneous information shown on the land use traverse (Figure 8).[12] As an overall area development indicator, Figure 29 shows the density of commercial overnight accommodations expressed in occupance units (rooms, cottages, and apartments). Figure 30 on the other hand, shows the density of area development by visitor supportive commercial establishments oriented toward recreation and allied services (eg., service stations, restaurants, amusements, etc.).

The graphs were designed to include the entire coast fringe between Destin and Panama City (despite exclusion of part of this area from the operational study area) in order to more clearly demonstrate location of all study

campgrounds relative to the area's developmental structure. The contrast in amount of nearby auxiliary commercial development between Grayton Beach and St. Andrews parks is obvious from these two profiles. It will be seen that visitor services and transient lodging follow essentially the same profile of relative density. In both cases Grayton Beach is relatively isolated in terms of its external commercial setting while St. Andrews is relatively near the development peaks on both graphs.

Grayton clearly lies within a profile trough between the urbanized extremes of the graphs. One modest resort, a handful of rental house trailers, and a small motel offer Grayton's only nearby transient lodging. The visitor support profile is somewhat deceptive since several recreation and service businesses are indicated as surrounding Grayton. Actually a number of these units are small roadside automotive service stations and businesses serving the resident needs of nearby Santa Rosa Beach which is located on the main through route, US 98.

Of the private campgrounds in the survey, two deserve comment here (in addition to the descriptions of Chapter III). Pirate Cove is the private camp nearest to Grayton Beach State Park in isolation and solitude. Beach, on the other hand, lies with the area's most intense zone of recreation,

service, and lodging, as is clearly indicated by both profiles.

Setting-Specific Camper Groupings

Because polarity and a variable array does exist within area campground settings, then the hypothesized preference clustering at different campgrounds appears to be a valid test hypothesis. It was decided to focus on the two polarized settings of Grayton Beach and St. Andrews for cluster testing. However, visitor attitudes were examined at the private campgrounds, also. Subjective observations could not suggest as acceptable a ranking of all of the private campgrounds. Also, though any different attitudes clustering would suggest acceptance of the hypothesis, it was decided to probe specifically for attitude differences that could be predicted by settings on an urban-nature continuum.

It was, therefore, predicted that St. Andrews would be characterized by visitors seeking a highly active, gregarious, centripetal social direction camping experience. Grayton Beach was predicted to be characterized by centrifugal social direction, and a search for seclusion, solitude, privacy and relaxation amid a more natural setting. Among the private campgrounds, Beach was expected to be the most urban-convenience oriented as well as sharing the predicted

characteristics of St. Andrews.

Sample visitors in all survey campgrounds were asked the following question:

> Do you have any particular reasons for visiting this campground instead of another in the Panama City area?

It was essential to concentrate only on those respondents who indicated a type of comparative campground selection process (regardless of how incomplete a comparison). Therefore, only answers indicative of a comparative selection basis are included in Table 13. Note that for each selection reason the frequency of response is given, represented by a percentage of the total of comparative responses at each campground. Other responses will be discussed later.

As can be seen, visitor responses varied widely, but there appear to be several dominant themes or answer groups. Many selected a campground on the basis of services. Though not an exclusive domain, private campgrounds tended to attract visitors because they were perceived to offer superior services (especially those personally rendered) and friendly management. A wide range of facilities, both for camping and for allied activities attracted many. Though supervision, regulations, and a sense of security attracted many, an opposite group selected their campground in order to avoid restrictions, and to have a greater sense

TABLE 13

REASONS FOR CAMPGROUND SELECTION

Preferred Quality		Campground* G	S	A	B	K	M	P
		(Percentage of Total Response by Campground)						
Services								
1	Reservations		.4			15.4		
2	Better (more personal)		.8		1.6	5.8	1.7	7.4
3	Good (friendly) management		1.7	1.8	1.6	5.8	2.6	13.7
4	Pets allowed			3.6		1.9	2.6	1.1
Facilities								
5	Better	2.4	4.2	3.6	2.5	5.8	3.4	
6	For trailers		.4		.8		.9	1.1
7	Uniform quality					10.0		
8	Laundromat					1.9	.9	
9	Pool				7.4	19.2		
10	Recreation room					3.8		
11	Store					3.8	.9	
Supervision								
12	Better control, security and strict regulations	.8	5.0				6.9	
13	Fewer restrictions and more freedom of movement			1.8				1.1

TABLE 13 (Continued)

Preferred Quality		Campground* G	S	A	B	K	M	P
		(Percentage of Total Response by Campground)						
Maintenance								
14	Cleaner or better maintained	4.4	3.8	3.6	.8		2.6	3.2
Economy								
15	Cheaper	.4	2.1	1.8		1.9	2.6	2.1
Activities								
16	Larger variety of recreation facilities (activities)	2.0	1.7			1.9	1.7	
17	Good skin diving		.4					
18	Safe children's swimming		1.3	5.4			1.7	
19	Uncrowded beach	2.0						
Location								
20	Near beach	8.4	11.3	5.4	23.8	3.8	.9	3.2
21	Near shopping	.4	.4		2.5		.9	
22	Near town		6.3		.8	3.8	1.7	1.1
23	Near amusements		9.2	5.4	35.2	5.8	1.7	2.1
24	Near restaurants		1.3		1.6			
25	Central location		3.3		11.5		2.6	

TABLE 13 (Continued)

	Preferred Quality	Campground* G (Percentage of Total Response by Campground)	S	A	B	K	M	P
26	Not isolated		.4		3.3			
27	Near crowds				5.7			
28	Away from commercial areas	10.4	1.3	3.6			1.7	4.2
29	Near deep sea fishing		1.3				.9	
30	Easy boat access to Gulf		.8					
31	On (near) fresh water or bay	8.8	15.1	32.1			13.8	18.9
Environment								
32	More natural (less developed or commercial)	5.6	2.5	3.6			.9	1.1
33	Scenic	.8	1.7			1.9	1.7	
34	Shady		13.4	19.6	.8	1.9	38.8	22.1
35	Breezes	.8		3.6			.9	
Privacy								
36	Larger, more popular		1.3					
37	Smaller campground	2.4						3.2
38	Less (not) crowded	18.3	.8	3.6		3.8		5.3
39	More privacy	9.6	.8					
40	Larger sites	2.4	.8					

TABLE 13 (Continued)

	Preferred Quality	Campground* G (Percentage of Total Response by Campground)	S	A	B	K	M	P
41	Good spacing and layout	2.8	.8	1.8				
42	Good vegetative buffering between sites	1.2	.4					
Solitude								
43	Quieter	11.6	.8			1.9	3.4	7.4
44	Fewer teens		.4					
45	Fewer motorcycles		.4					
46	More relaxing place	.8					.9	2.1
47	More suited for families (less boisterous or coarse language)	3.2	2.1				.9	
48	No drinking	.8	1.3					

*Campground names and total response for each are as follows: G, Grayton Beach State Park (251); S, St. Andrews State Park (239); A, Alligator Point (56); B, Beach (122); K, K.O.A. (52); M, Magnolia (116); P, Pirate Cove (95).

of freedom in movement. A few specifically considered cleanliness of facilities, condition of grounds, and price of fees in selecting a camp. In addition, variety, safety and crowding of on site recreation facilities were partly decisive for many. As was expected, considerable comment was made on perceived solitude, privacy, naturalness of the setting and proximity to off-site developed activity areas.

By simply comparing entries in the first two columns the anticipated different perceptions and clustering between Grayton and St. Andrews are suggested. Services and facilities are more emphasized at St. Andrews and nearly unmentioned by those selecting Grayton. Though some visitors to both parks selected partly on an activity potential basis, note that it is the uncrowded beach at Grayton that attracted campers. The locational advantages stressed by St. Andrews campers are those associated with proximity to activity and crowds. The privacy associated contrast between small and large camp preferences also should be noted.

A more intensive examination of Table 13 shows more pronounced differences between visitor preceptions of and attitudes toward Grayton and St. Andrews. Nevertheless, the contrast between these two park campgrounds is not as great as was anticipated. The real polarity or setting-specific

cluster contrast is between Grayton and Beach campground. A ranking of perceptions and inferred visitor attitudes toward the individual campgrounds was made from Table 13 which forms the subjective basis of the following comments.

Grayton and St. Andrews essentially were shown to be, as predicted, respectively centrifugal and centripetal in social direction. Both were selected for cleanliness and well maintained facilities and both were favored (St. Andrews much more, however) for having a high perceived potential for Gulf and other water activity. St. Andrews' shade was an obvious advantage unshared by Grayton. The key perception of Grayton was that of an uncrowded, quiet, highly private, natural, and noncommercial (internally and externally) setting. St. Andrews, on the other hand, contrasted with features stressed oriented toward perceived internal and external advantages for urban-convenient, high amusement-excitement potential recreation in and around a well supervised and secure campground with modern facilities. The array of the private campgrounds fell into an ill defined range between the extremely urban-oriented, convenience stressing, crowd and activity excitement seeking visitors at Beach and the quiet fishing and shade relaxing visitors in secluded Pirate Cove.

The observant reader will by now have noted that in

outdoor recreation, and especially family camping, it seems impossible to separate meaningfully the elements of campground selection. Social direction, resource and activity preferences, and preferred campground internalities and externalities, among other factors, seem to be, for the individual decision maker, an interwoven fabric that inextricably relates with perception and ultimate choice.

Even if assumptions are made that information is uniformly and comprehensively disseminated, that people are aware of their needs, and that satisfaction optimizing behavior is the norm, then site selection probably still would involve a compromise between one or more of the major preferences in a realistic attempt to approach a perceived optimum mix of satisfactions.

In addition, it must be noted that the extremely relative concept of quality has been skirted. In a sense, maximizing quality of experience is the logical goal of a deliberately selective process (unless economic rationale is dominant). The value of the estimated experience or the perceived recreation satisfaction potential determines quality (i.e., site utility) of a campground's internal and external setting.

In reality, respondent comments indicated that the process of campground selection is quite divergent from that which would be expected from a strict application of minimax

assumptions or for that matter a satisficer model. Clearly the selection process is often couched in gross imperfections in the information system and in a camper attitude that often is not greatly concerned with optimizing. To a large extent campground selection is a chance process, or at best it is characterized by much camper indifference.

For example, several indicated that they considered no campgrounds other than the one in which they camped. Friends and relatives suggested particular camps. Others chose a location simply because it was a convenient place to stop while en route to another area or while touring. Nearly all of this group stopped at Grayton (25 of 514 parties). Some selected a campground vicariously by road signs and guide books and a few were diverted from destinations by appealing road signs. State park overflow, en route needs, late night exhaustion, tired and screaming children, beach anxiety, need to be near work or a relative's residence, ignorant novices, etc., all tended to confuse the total array of campground selection reasons. Of questionable value is the often used "random variation" factor that dismisses these factors.

A last modifying caution must be made. The concept of isolation or campground location relative to urban and other developed areas is extremely variable in nature. Results

indicated that perceptual response to relative isolation or accessibility is nonuniform aligned along a continuum. In other words, what is to some near, is to others far. For example, to some K.O.A. or Magnolia visitors, nearby Alligator Point was nearly a wilderness setting. To some St. Andrews campers their location was deep within a natural setting and "away from it all," despite commercial development at the park gate. To some Grayton campers, all of the Panama City campgrounds were almost "in town." Another point is called for in future interpretation of the results of this study. What is located away or in isolation is a function of resource use, urbanization, and cultural perception factors and is likely to change with passage of time.

Nevertheless, the results, among those who exercised an evaluation and selection process, were as predicted. Visitors have been shown to cluster or gather in somewhat like-minded groups in order to utilize particular perceived location advantages within different campground settings. But this should not be taken to imply that all users of a campground, should be expected to vary similarly in attitude from those of other campgrounds, for erratics are also very much a part of the process.

Implications

The reasons for camping are diverse. The camping family's environmental objectives are many. Within the spectrum of campers' tastes lie many needs based on these divergent attitudes. The campground selection compromise (discussed earlier) is probably infinite in trade-offs between available resources, and preferences in social and natural environment. Activity propensity compounds the already intricate fabric. Clearly there is need for a variety of types of campgrounds (not just an average type for a mythical average camper).[13] Needs range from simple facilities to those offering sophisticated luxury and from camper independence and freedom to catered personal service.

It has been customary to discuss public recreation resource allocation for diverse human needs along with established resource management practices and types of land. Hence, the variety of camper needs are met within a range of land from federal wilderness areas, national forest remote areas, state game management camps, state forest campgrounds, reservoir-management recreation area camps, national park camps, state park and recreation area camps, to county and local campgrounds. With few exceptions, most of these types try to please everyone and they maintain management level "types" of camps that meet average assumed

camper needs. There are, of course, exceptions, and some federal resource agencies are approaching planned campgrounds for specific experience enhancement.

The planning and management implications of the preceding discussion of campground visitor grouping by preference are more specific than simply a plea for a variety of management types and camp settings. Recall that discussion centered on the existence of a setting-specific range of attitudes within a single basic natural resource type (ocean beach), by a group of recreationists with a specific activity mode (family easy-access automobile camping), and within an approximately equal management-service hierarchy level (state park campgrounds and area associated private facilities).

Consequently, it is proposed that campground planners and managers review their objectives regarding attempts to satisfy specific camper needs within the parallel array of management areas having comparable resource settings. The obvious implication for Florida beach state parks is that a need exists for a variety of sub-regional management settings with a range of development for camping and other activities. Beach lands should be deliberately acquired, planned, developed and then managed to provide a choice in settings. Need exists for planned low-density, natural

beach campgrounds as well as for those with large, dense, fully developed social-activity beach camping locations. In other words, if serving all the people who camp is a valid social objective for public concern, then within-resource-type development must be group specific.

The question now is whether publicly managed lands must serve all needs. Florida has to a certain extent avoided competition with the private commercial segment, insofar as extremes are considered, for the public campgrounds cannot measure up to the luxury of overnight facilities and campground services in the most lavish private camps. However, perhaps public subsidy could be concentrated more effectively in maintenance of valuable soon-to-be remnant outdoor recreation environments and in commercially noncompetitive segments of the camping-need spectrum. In the opinion of the author, for example, any expansion of Grayton Beach's recreation facilities or campground size and convenience level would tend to work change on the ability it now has to serve specific needs.

The alternatives to specific provision of deliberately differentiated campground product are few and perhaps in the long range unsatisfactory. The solution to keeping up with increasing use of campgrounds and to always provide a supply of unknown locations with consequent low density is

simply yearly allocation and development of new parks with campgrounds. But this is not perpetually feasible. The other solution is to disregard low density camping needs (assume they will be met by private timber land and wildlife management swamps) and increase the carrying capacity of existing facilities. Of course, such intensive use and sophisticated (or worn) settings would perhaps result in a decreased quality of experience for a new group on the urban-nature attitude continuum. A possible compromise solution, for a while, is multiple-density-zoned and managed recreation areas.

Management Preferences

A greatly neglected area of research in campground use has been camper attitudes toward management types. At least one study has been done relating variation in camper socio-economic and attitudinal characteristics to type of public land management agency facility.[14] This study specifically dealt with expressed reasons for specific agency facility use and allied visitor attitudes toward different agency facilities. Attitudes toward equal hierarchy-level private and public campgrounds have remained largely unstudied. Do some campers prefer only public campgrounds and others the opposite? Do some treat them with equal preference? If

such specific preferences can be demonstrated, upon what basis do they exist? All of these questions are essentially unprobed in the literature. Consequently, within the scope of this exploratory sampling a few of these questions were approached.

Visitors were asked if, in general, they preferred to camp at private or public campgrounds. A summary of their responses is found in Table 14. Of the total sample of 514 camping parties, distributed about equally between public and private campgrounds, over one-third responded that they had no preference in campground management type, while nearly half of those interviewed preferred a public campground. The between-camp contrast in public preference is revealing of clientele mix at various study area campgrounds. Among the group some apparently function more than others as public park campground overflow facilities (see K.O.A.). Particularly revealing is the proportion of state park campers who had no real preference.

It was felt that since private campgrounds are relatively new on the camping scene perhaps availability and experience were biasing preferences. Whether a restated preference or measure of experience was gained is uncertain, but the percentage of public experience of total camping experience was established. Both Grayton and St. Andrews had medians

TABLE 14

CAMPGROUND MANAGEMENT PREFERENCE

Campground	Private	Public	No Preference
	(Percentages by Campground)		
Grayton	2*	73	22
St. Andrews	0	70	28
Alligator Point	12	27	59
Beach	31	23	42
K.O.A.	31	41	29
Magnolia	33	8	55
Pirate Cove	33	28	39
All Parks	14	49	35

*e.g., 2 per cent of Grayton sample.

(percentage public of total) of 80 and the private camps ranged from 42 (Beach) to 67 (Alligator, K.O.A., and Magnolia). The total sample had medians of eight and three for respective number of public and private campgrounds previously visited.

Among the two-thirds of the sample respondents who expressed a management preference, the following additional question was asked:

> What are the most important reasons for your preference of public (private) campgrounds?

The answers are summarized in Table 15. Note that responses are grouped by degree of exclusiveness. Some characteristics associated with type-preference were not listed for the opposite type. A second group of answers were listed by respondents favoring both management types. To a large extent this is evidence of incongruous reasoning or a vagary of perception. It is significant, however, that people emphasizing preference for the same attribute in a campground stress both management types. In addition, since the data were so subjective in coding and interpretation, statistical manipulation yielding confidence levels was not done. Therefore, confidence in significance of differences stated is questionable in many cases. Nevertheless, it may be stressed that real preferences do exist, however

TABLE 15

MANAGEMENT PREFERENCE FACTORS

Favored Characteristic (* = emphasis)	Public	Private
Exclusive		
* Camp stores		X
Laundromat		X
Trailer access		X
Conveniences		X
Daily trash pickup	X	
Vegetation between sites	X	
Personal service		X
Less fawning management	X	
Nicer campers	X	
No Blacks		X
Less restrictive security (gates, etc)		X
Fewer motorcycles	X	
Highway locations		X
Located on road maps	X	
Scenic locations	X	
* Located in choice recreation spots	X	
* More natural	X	
More solitude	X	
Nature interpretation, museums, etc.	X	
* Less commercialized	X	
Away from towns	X	
No false advertising	X	
Used to them	X	
Older, more established	X	
Always site availability		X
Reservations		X
Prefer to support government	X	
Prefer to support private enterprise		X
Dominant		
Camping facilities	X	
* Recreation facilities	X	
* Swimming pools		X
Trailer sewage, etc.		X
* Cleanliness, general maintenance	X	
* Campground design	X	

TABLE 15 (Continued)

Favored Characteristic (* = emphasis)	Public	Private
* Larger sites	X	
* Less crowded	X	
Facility-people ratio	X	
* Privacy	X	
Convenient locations of facilities		X
Management (better and friendlier)	X	
* Security	X	
* Supervision and restrictions	X	
Less restrictive		X
Friendly campers	X	
* Family-type campers	X	
No drinking	X	
Near activities	X	
* Economical	X	
Equal		
Pets not permitted in public		
Better traffic control		
Don't know any		

imperfect the perception, comparison, and opinion.

Some implications of these data must be discussed. It is proposed that public agencies, particularly state parks, need not feel obligated to try to keep up with all of the increasing demand for family camping. Clearly, some people have distinct preferences for the commercial-convenience setting of private campgrounds. Another group has no preferences either way. For these campers public and private campgrounds are essentially interchangeable. In this case, if Florida should try to give the people exactly what they want, they would have to conclude that only part of increased demand must be met by park camps. If policy makers decide that the type who have no preference should not be subsidized by public camping, then an even larger proportion of future camping demand increase needs no public consideration.

The point made earlier that campers perceive both public and private facilitates to offer identical advantages is also significant. This would seem to indicate a need for better dissemination of information. If all potential park campers could be informed at the gate or another conspicuous place of alternatives in private area camps, possibly many would be diverted to a private camp.

The following question is old, but valid. If private

enterprise can provide an equal facility and service (disregarding the often superior provision), at a comparable direct consumer cost, then why should public agencies feel a responsibility to compete?

The preceding table indicates a variety of preferred features associated with public campgrounds. It is proposed that public management should emphasize, through maintenance and land management, these desired characteristics, while deemphasizing other unessential characteristics that overlap with private business. Again, the proposal is to emphasize the environmental and low-density camping aspects that are probably noncompetitive with private enterprise and that may (with validity) justify the use of public funding.

Economic Considerations

In the first part of this chapter it was noted that 59 per cent of the visitor sample camped at least partly in order to economize (See Table 12). The interpretation of this statement is made complicated when it is realized that this category includes a considerable range in importance to individual participation. Some campers added comments that the economy of camping was the major reason their group could even consider an overnight outing or vacation trip. At the other extreme, families with heavy

investments in luxury camping equipment and sporting goods claimed economy of vacation to be their reason for camping. There also was the group of respondents who used the economy of camping as a means of extending their vacation budget in order "to see more" or travel farther.

The ORRRC reports found considerable cross-income bracket camping participation and concluded that the economy motive was "not of major importance."[15] This author proposes that the economy motive is a real factor associated with participation, but that the personally subjective concept of economy is extremely variable resulting in tenuous cause and effect conclusions. Consequently, the following discussion relates survey results to a subjective enquiry into a few economic considerations involved in camping and campground selection.

As has been demonstrated under ideal conditions each camping party would have full knowledge of the location and characteristics of each campground within an area or at a destination. Knowledge would be of such things as campground relative location (i.e., to facilities for recreation activities, to stores and supplies, to built up areas, to crowds of people, to transportation routes, etc.), internal camp features or site characteristics (such as amount of shade, size and spacing of sites, privacy factors, activity

and noise levels, nature of recreation provisions, amount and quality of camping facilities and services), and the campground use price.

The results of this study would appear to substantiate the notion that (at least in this specific study area) campground selection is not made on the basis of a comparative survey of the offerings of the area camping market. Selection is for the greatest part either entirely a matter of chance and travel routing or it is distinctly oriented toward some unexplainable loyalties or a variety of personal preferences. Consequently camp fees are not always a factor of critical concern in camp selection. Note the very small proportion of responses pertaining to economy of camping in the reasons visitors gave for campground selection (Table 13). Combined, all of these represent only 13 of 514 interviewed parties.

Fees and Campground Selection

The chance or choice campground selection is made and if the fee is reasonable the party stays. It must be stressed that often this is done with little attempt to verify that other campgrounds even exist. For many parties no comparisons are made--or very few at best. A total of 66 per cent of the surveyed visitors indicated that they made

no shopping comparisons before selecting their campground. Thus, the camp fee, as a factor of spatial variation, becomes significant primarily when considered at the level of marginal cost to the camper. In other words, the fee level that causes a prospective camper to consider the cost high enough to make it worthwhile to look at another possibly less expensive campground is that which illicits a response capable of influencing the distribution of campers within an area. Lower fee levels are greatly disregarded.

Campers were asked, in essence, for their estimation of marginal camping costs or the fee at which diminishing marginal value would cause them to seek another campground, or to shop more before selecting a site. The total response was so complex, based as it was on several different fee levels, etc., that it was decided to represent the totality of visitor response to increases of fees for the nonexistent assumed average of the combined study campground product.

The results of this question are given in Table 16. In order to compile Table 16 an assumption was made that no reduced camping would result from reduced fees; thus, any fee paid represents an equal willingness to pay a lower fee. Note that at each fee level parties generally were found willing to pay another dollar or two before they would have shopped for a lower price at another campground. Such a

TABLE 16

FEE LEVEL AND WILLINGNESS--I

Fee Pai (Dollar	Additional Fees Willing to Pay							
	0**	1	2	3	4	5	6	7
1								
2	5	11	6	1				
3	123	194	68	5		3		
4	29	26	4					
5	18	9	3		1			

* Eac level is an interval centered on the dollar value sho

** An onal fee dollar would have resulted in those lis low to search for another campground.

response suggests the visitors either were asked acceptable prices in most cases or they responded to the question without carefully thinking. Interviewer observation suggests the first explanation in most cases.

Table 17 is a summary of Table 16 in which is shown the number of camping parties that would have shopped for a lower priced campground at each of several fee increment levels. The ogive cumulative curve derived by plotting the last column in this table is shown in Figure 31. This indifference curve shows total sample expressed response to various fee levels. For example, at the three-dollar daily fee level on the graph nearly all of the campers interviewed considered it a fair price and even would have been willing to pay at least another dollar in daily fees. Thus 99 per cent (See Table 17) were indifferent to a three-dollar fee. One per cent of the sample was found to be at the margin at three dollars, for if they had been asked to pay that much they would have looked elsewhere.

Nearly all campers interviewed paid at least three dollars per night as indicated in Table 16; therefore, though some would have preferred lower fees, they clearly indicated their acceptance or indifference by paying that minimum fee. Figure 31 shows, however, that the incremental fee increases between four and six dollars include the

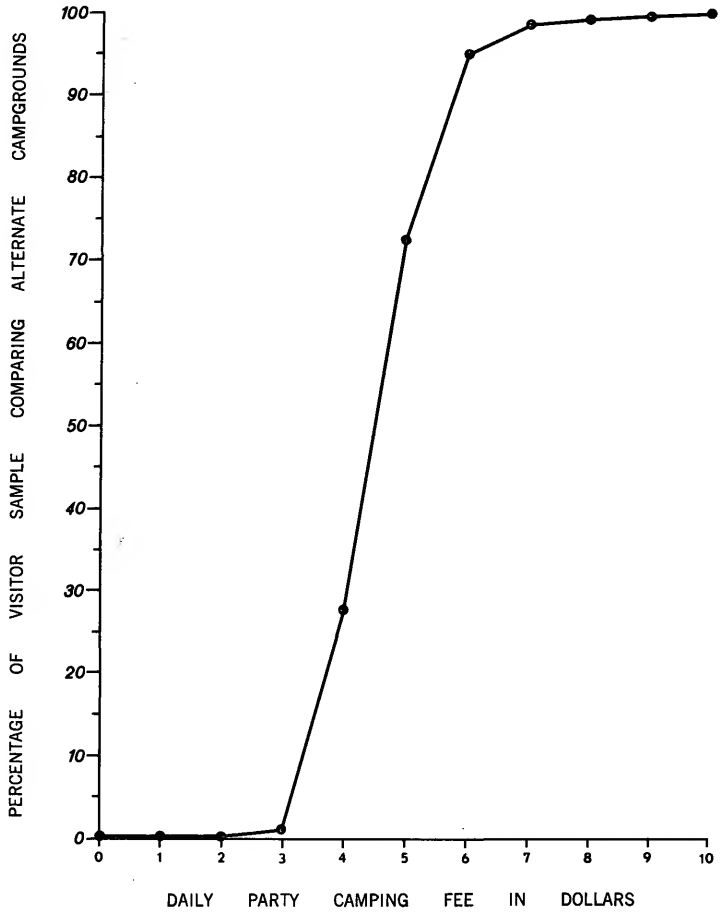
TABLE 17

FEE LEVEL AND WILLINGNESS--II

Fee Paid (Dollars)	Sample Number Willing to Pay More	Percentage of Sample	Sample Number Unwilling to Pay More	Percentage of Sample
1	505	100	0	0
2	506	100	0	0
3	501	99	5	1
4	367	72.5	139	27.5
5	138	27.3	368	72.7
6	25	4.9	481	95.1
7	7	1.4	499	98.6
8	4	0.8	502	99.2
9	1	0.2	505	99.8
10	0	0.0	506	100

* N = 5[illegible]rties.

VISITOR INDIFFERENCE TO CAMPGROUND FEES



Source: Stratified random sample of parties camping at Grayton Beach, St. Andrews, Alligator Point, Beach, KOA, Magnolia Beach, and Pirate Cove, summer, 1970.

Figure 31

marginal fees for nearly all parties surveyed, thus indicating practical maximum fees and percentage turn-away at different between levels for an average campground (fees of course reduced from present inflationary level to that of 1970). The result is a valuable management tool for area campground operators considering fee increases. It should be noted that there would be an unknown proportion that would prefer lower fees but having an investment in equipment they would camp anyway even at higher fees. If they had a choice they would look elsewhere at each price level examined.

The spatial effects of nonuniform fee changes within the study area (with quality provision remaining constant) would be a variably increased selective process in which more shopping and price comparison would take place. The amount of increased shopping resulting in actual physical travel to different campgrounds for on site comparison and evaluation and the proportion taken up by increased perusal of campground directories is unknown. In any case, some would result in shifts of campers to lower priced camps while some would result in decisions to pay the higher price for perceived quality, service, or facility differences.

It may be speculated that the result of a cross-study-area noncompetitive major fee increase would result in either shorter visits, a search for an alternate recreation area,

or the decrease of campgrounds as potential campers switch to other lodging types in order to enjoy the area's recreation resources. It might be added that the shape of the shift away from camping in the area would presumably take the form of Figure 31.

Fees and Camping Participation

The preceding comments concerned the price elasticity of demand for the 1970 campground product in the study area or the presumed effects of alternate pricing practices on rate of consumption (use of camping facilities). In addition, without hypothesis formulation, another concept of camping elasticity was probed for. It was simply desired to see what possible ramifications would result from a hypothetical pushing of camping fees to an absolute ceiling. By so doing, price elasticity for participation in camping as an activity would theoretically result.

The question asked visitors was:

> What would be your reaction to a situation in which all campgrounds (here and elsewhere in the nation) charged an overnight fee equal to local prices for your group at a good motel (eg. Holiday Inn)?

Table [illegible] presents the array of responses and the sample proportion responding each way. It is interesting to note that [illegible] large number would stop camping, over 56 per

TABLE 18

REACTION TO FEE INCREASE TO
MOTEL COMPARABLE LEVEL

Response	Sample Percentage Responding*	
Quit Camping Completely:		44
Quit camping (unqualified intent)	13	
Quit camping and switch to motels exclusively	26	
Unqualified intent	24	
With decreased trip length or frequency	2	
With kitchen facilities	1	
Quit camping and stay home	5	
Continue Camping but Also Use Motels		10
Continue Camping Exclusively:		46
Unqualified intent	23	
With no changes in habits	10	
But use public primitive, non-rental areas	11	
But with permission to use private land	2	
But typically use road sides, etc.	1	
But switch to boat camping	**	
Total		100

* N = 42 respondents, per cents rounded to whole numbers.

** Less than one per cent.

cent would continue camping at least occasionally. Spatial and resource use implications of this table are quite obvious. Since only camping purists would remain participating in the activity, a shift away from developed-site camping would occur in some cases, while about one-fifth of the respondents would continue to patronize developed campgrounds and pay high prices. The other half of the camping market would either patronize motels, visit relatives, or increase day-use pressures on recreation facilities near their residences. In any case, widespread repercussions would surely result.

In summary, regarding fees, it may be stated that though low prices may or may not attract campers, high prices will drive a great many away. All things considered, there must be a perspective placed on the preceding discussion. Since fees are only a portion of the cost of a recreation outing or vacation, it would be expected to find fee increases affecting attendance jointly relative to total trip expenditure. Consequently, if only distance is considered one must expect distance variable price elasticity of demand.[16] In actuality, it is a far more complex factor than implied by the discussion.

Summary

This chapter has dealt primarily with site and local considerations. Primary emphasis was on the process of campground selection, with a spatial implication in the result of selection: a movement internal to the study area resulting in gathering or agglomeration (clustering) of camping parties at specific places (campgrounds). Though emphasis was on factors of selection, the objective was to gain an understanding of the reason for the distribution pattern of campers in space. In addition, a few questions and alternatives were offered for consideration by public campground management and policy makers.

Campground selection factors were examined against a background of basic attitudes toward camping (motivations). Setting-specific camper groupings were demonstrated at the several study sites. The implication is that there is need for a variety of campground settings (relative to internal and external development) within a single resource type. Visitor satisfaction only can be maximized by a planned mix of alternate sites. There is no satisfactory average campground development setting.

In addition, it was found that site selection involves considerable perceptual confusion by those who choose a site

for reasons of private or public management preference. Last, consideration was given the role of campground fees in site selection. A considerable indifference to fees was found, indicating that only at extreme levels are fees influential in the campground selection process. In addition, the impact of maximum fee levels on camping participation was inventoried.

NOTES

1. See, for example, Elwood L. Shafer, Jr., The Average Camper Who Doesn't Exist, Forest Service Research Paper NE-142 (Upper Darby, Pennsylvania: Northeastern Forest Experiment Station, 1969).

2. For example, William R. Burch, Jr., and Wiley D. Wenger, Jr., The Social Characteristics of Participants in Three Styles of Family Camping, Forest Service Research Paper PNW-48 (Portland, Oregon: Pacific Northwest Experiment Station, 1967).

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7. U. S. Outdoor Recreation Resources Review Commission, Prospective Demand for Outdoor Recreation, Study Report No. 26 (Washington, D. C.: Government Printing Office, 1962), p. 62.

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13. Shafer, p. 16.

14. John C. Hendee, "Recreation Clientele--The Attributes of Recreationists Preferring Different Management Agencies, Car Campgrounds or Wilderness in the Pacific Northwest," Ph.D. dissertation, University of Washington, 1967.

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CHAPTER VI

RECAPITULATION AND CONTINUATION

It is not the intent of this chapter to summarize at length on the previous discourse. Instead, the purpose is an evaluation of objectives by concise statement of conclusions and suggestions implied by results. Following this brief evaluation are selected comments appropriate to a continuation of this research (i.e., future research directions).

Recapitulation

The first objective was to describe spatial interaction between the study area recreation complex and its visitor tributary area for the specific recreation function of family camping. Chapter IV proposed a cartographically delimited tributary area surrounding the Panama City operational study area. This market area map was derived by plotting the spatial distribution of camping visitor trip origins. However, since it was desired to seek explanations for some regularities and irregularities associated with this distribution, the underlying travel and area selection

process was probed further. (Discussion of this aspect was made to fit against the conceptual framework of marketing and central place theory.)

The maximum tributary area was reduced by distance minimizing and perceived resource homogeneity assumptions to a predicted irregularly shaped functional tributary area. Map comparisons permitted a tenuous verification of the hypothesis that campers visit nearest beaches. It was stressed, however, that a large array of perceptual and information factors as well as variation in friction of distance might also have contributed to the actual shape of the tributary area. The descriptive goal of the primary objective was realized but explanation of market area shape irregularity was less satisfactory by comparison.

Another part of the analysis dealt with more general spatial aspects of spatial interaction within the tributary area. Interaction theory formed the basis for a selective examination of field aspects for the area camping complex. As expected (based on literature perusal), a selection rule based on perceived travel costs was found operating within the study tributary area.

Visitor origin data were considered as a continuous surface and its slope outward from the focal node was shown to be a negative function of distance (i.e., cost in

various terms). In addition, certain time elements were considered. Most important, it was found that a positive relationship exists between trip period and willingness to tolerate increased travel time. These generalized aspects of tributary area interaction also were a satisfactory completion of desired objectives.

The second objective was essentially to inventory and describe visitor concepts of resource interchangeability and preferences. Particular emphasis was given to perception of utility, or satisfaction potential, as these elements influence area and site selection from among alternates. An analysis was made of several closely interrelated test hypotheses dealing with resource perception and associated movement. Results showed that overall camper attitudes toward coastal beach resources were of resource nonhomogeneity or to a large extent they involved perceived noninterchangeability of separate resource locations. Though not all campers were shown to be highly resource or site specific, a large proportion of those surveyed had very distinct preferences in resources. Most resource areas could not be considered even as a trip alternative because of these specific attitudes.

The inventory and description goals of the second objective were handled successfully. Chapter IV described

resource attitudes and area selection. Chapter V dealt with variables associated with campground selection. Most important was the demonstration of camper clustering by setting-specific attitudes at different campgrounds.

The third objective was to generate selective background information for public campground planning and policy development. The secondary goal was to stimulate discussion of some alternatives to existing policy regarding use of land for family camping. The effectiveness of this approach will only be seen later, but pertinent background information was satisfactorily isolated. Though emphasis was still on factors of campground selection from among alternates, specific attention was given to possible effects of pricing and to management preferences. It was shown that a major segment of the camping market would cease to participate at certain maximum fee levels. In addition, it was demonstrated that fees are considered very little in actual campground selection processes and that only at their margins do they exert significant influences on site selection.

Campground management preferences were also probed. Selection was often partly based on preference for private or public management. A large group demonstrated either no specific preference or a confused and ill-perceived

logical basis for their preference. It was proposed that (at least) public (state particularly) agencies should not attempt to serve these nonspecific needs, but should rely on private management for their satisfaction.

The success of the fourth objective of moving toward a conceptual and theoretical focus in recreation geography also remains to be seen. In Chapter I the stage for the general tone of this entire research report was set. Additional specific and general remarks in summary are incorporated into the following section of this chapter.

Specific conclusions from this research are limited from the standpoint of comparability and from possible data limitations. In general, however, descriptive objectives were met and theoretical considerations were satisfactorily pursued. Exploratory considerations of perceived resource and site alternates were extremely high yielding. Though many questions were dealt with, it is in partial justice to the extreme complexity of the subject that such a multifarious and multiscalar approach was taken.

Continuation

It is not surprising that a large number of new questions have resulted from this study. Furthermore, it is not grounds for disillusionment to realize that those

questions approached were answered tentatively. For all considerations within this research are only now barely scratching at their surface by the available literature.

Without readdressing inherent study variables that might have influenced results it is worthwhile to address the interrogative phrase "What next?." There are a number of interwoven threads that have been partly unwound in this study and that still need individual attention in continued research.

The results of this study point to the necessity of additional careful evaluation of camper perception of alternate locations. Stouffer's interactance model of intervening opportunities may have particular value in future studies.[1] However, this study makes clear the necessity of knowing far more than presently is known about the way people perceive hierarchies of recreation resources, activities, facilities, etc. It cannot safely be assumed that gross numbers (of variably mixed hierarchy level) of intervening recreation opportunities (alternates) are valuable indicators of the filtering of effective demand that flows between two points.

This study further points to the imperfections of concepts of economic man, competitive market places, and perhaps even rational man within the recreation decision-

making process. An undercurrent throughout this research has been perception and the information base. The outdoor recreation information system is imperfect at best in regard to its completeness of sharing accurate knowledge of alternates among concerned individuals. The expenditure minimizing and recreation satisfaction maximizing decision maker with complete and accurate information is virtually nonexistent. Huff has proposed that marketing specialists find a way to deal with uncertainty avoidance as a modifying factor within individual decision-making processes.[2] As early as 1962 Isard and Dacey proposed that since selection of activity or consumption sites involves a behavioral process there is need to consider classes of attitudes within decision-making.[3] They stressed the need to re-evaluate the definition of rational and optimizing behavior. They went on to propose a classification of decision-making attitudes on the basis of uncertainty avoidance or the degree of risk tolerated by individuals.

There would appear to be quite profitable channels open for future investigation of such attitudinal structures underlying human behavior--particularly in outdoor recreation. Since the applied aspects of camping research fall well within the realm of marketing it would seem reasonable for recreation specialists to pursue the behavioral approach

recently advocated by marketing specialists.[4]

The key for future research would appear to lie in perception studies. Resource evaluation, satisfaction potential, and site valuation are all terms that relate to a deeply personal response to a visual or other perceived stimulus. Huff has classified a number of the variables of marketing allied perception.[5] Golledge has added to this base, but the myriad of factors causing variation in individual and group receptivity to the information system and in the perceptual filtering process still are little understood.[6] It would appear that spatial interaction is what follows perception and decision-making and these latter processes need clarification before truly predictive models of interaction can be formed.

Some would say that gravity and similar models are indeed predictive and need no involvement in processes of the mind. Yet the author suggests that such empirical models simply describe status quo and are not truly predictive. It is the distal end of the interaction curves, the marginal fees, and market area overlaps that demonstrate (in this research and in others) the inadequacies of the methods of social physics. Such things as understanding effort-sensitivity,[7] the social and cultural factors of distance-sensitivity,[8] the effect of site-facility

hierarchy level on distance-sensitivity,[9] and perhaps even perception as influenced by a person's environmental personality[10] need to be pursued, among a greater number of more common factors, before much progress can be realized.

Deasy and Griess clearly perceived the overall significance of their cross-sectional case study and yet were able to express a trust in the future for such studies as theirs. The author considers their words a most fitting conclusion to this research:

> A few raindrops do not make a shower, and a few business establishments do not constitute an industry. It is perhaps rash to attempt the formulation of generalizations based on two out of a multitude of tourist establishments, and one out of an eternity of years. Yet, the authors cannot but feel that the lessons learned from this study may have more than local and temporal significance. Perhaps it is best to state our conclusions and hope that other individuals, at other times and places, will confirm or refute the validity of the judgements involved.[11]

NOTES

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APPENDICES

APPENDIX I

OUTLINE FOR AN URBAN ORGANIZATION FOCUS BASED ON AVAILABLE RECREATION GEOGRAPHY LITERATURE

Urban setting: city classes

- Functional classification (Harris[1])
- Service classification (Nelson[2])

The resort and retirement city, characterized primarily by recreation movement toward the city

- As a recreation geography focus (Stansfield[3])
- Examples of general studies (Kohn,[4] Thoman,[5] Hoffmeister,[6] Spencer and Thomas,[7] Withington[8])
- Morphology (Stansfield and Rickert[9])
- Population growth
  - Permanent (Baxevanis,[10] Rugg,[11] Sharer[12])
  - Seasonal (Erickson,[13-14] Taafe,[15] Taylor[16])
  - Amenity basis (Ullman,[17] Bailey,[18] Simkins[19])

The nonresort city and region, characterized primarily by recreation movement away from the city

- The city
  - Land use
    - Parks and commons (Brodeur,[20] Kearns,[21] Prince[22])
    - Other open space (Forward,[23] Williams[24])

Social travel (Wheeler and Stutz[25])

Sport (Burley,[26] Shaw[27])

The rural-urban fringe (Wehrwein[28])

Amenity suburbs (Dohrs,[29] Melamid,[30] Smith[31])

Amenity agriculture (Irving[32])

Day-trip recreation hinterlands (Hosse,[33] Mercer,[34] Rigby,[35] Stevens,[36] Stilgenbauer,[37] Young[38])

The urban region

Rural satellite suburbs (Logan[39])

Weekend and vacation urban recreation hinterlands (Gottmann,[40] Green,[41] Mercer,[42] Richards,[43] Rigby[44])

Cottage areas (Clout,[45] Ragatz,[46] Wolfe[47-48-49])

Other peripheral recreation resource areas (Mercer[50])

County peripheral areas (Klimm[51])

The nonresident city as a recreation place for non-urbanites, i.e., metropolitan region recreation gravitation toward the city (Burnett,[52] Barnum[53])

Theory (Mitchell[54])

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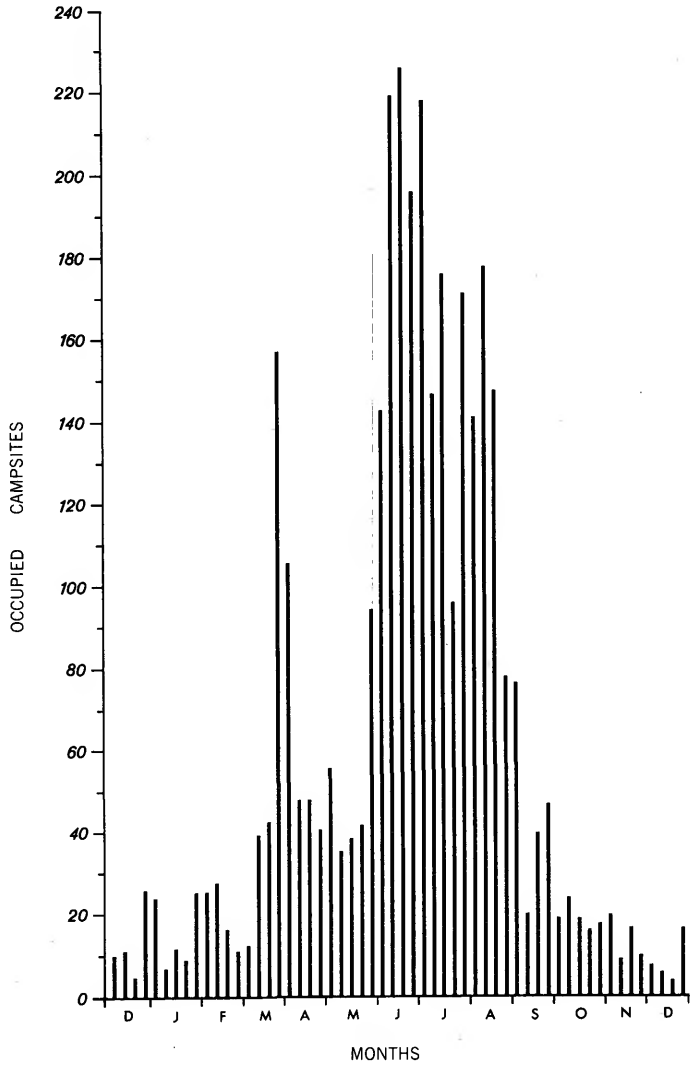
APPENDIX II

SEASONALITY SUPPLEMENT

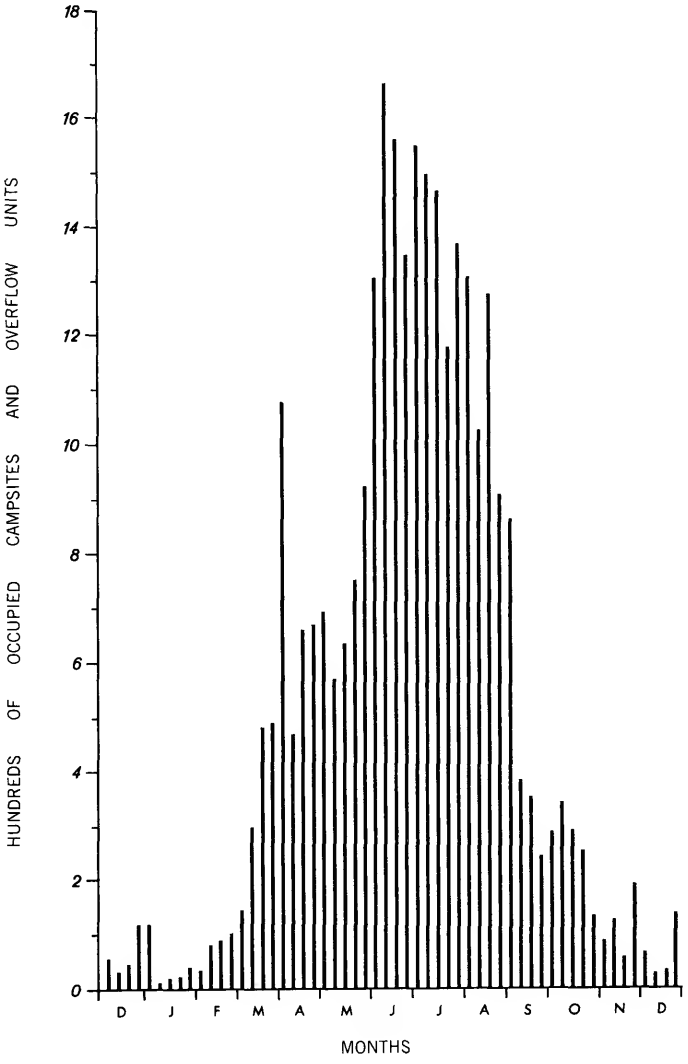
INTRASEASONAL VARIATION IN GRAYTON BEACH CAMPSITE OCCUPANCY



Source: State of Florida, Division of Recreation and Parks, Superintendents Reports, December, 1969, through December, 1970.

Figure 32

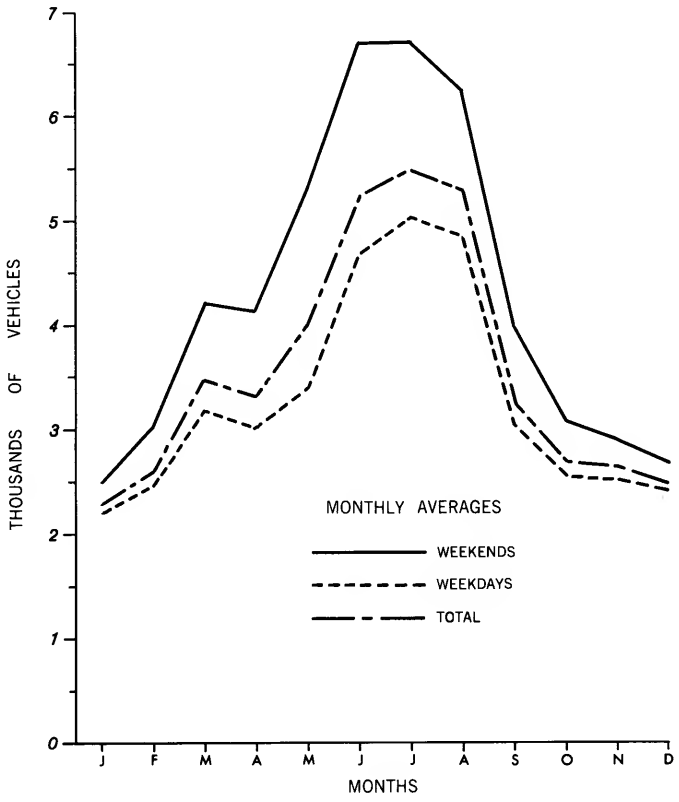
INTRASEASONAL VARIATION IN ST. ANDREWS CAMPSITE OCCUPANCY



Source: State of Florida, Division of Recreation and Parks, Superintendents Reports, December, 1969, through December, 1970.

Figure 33

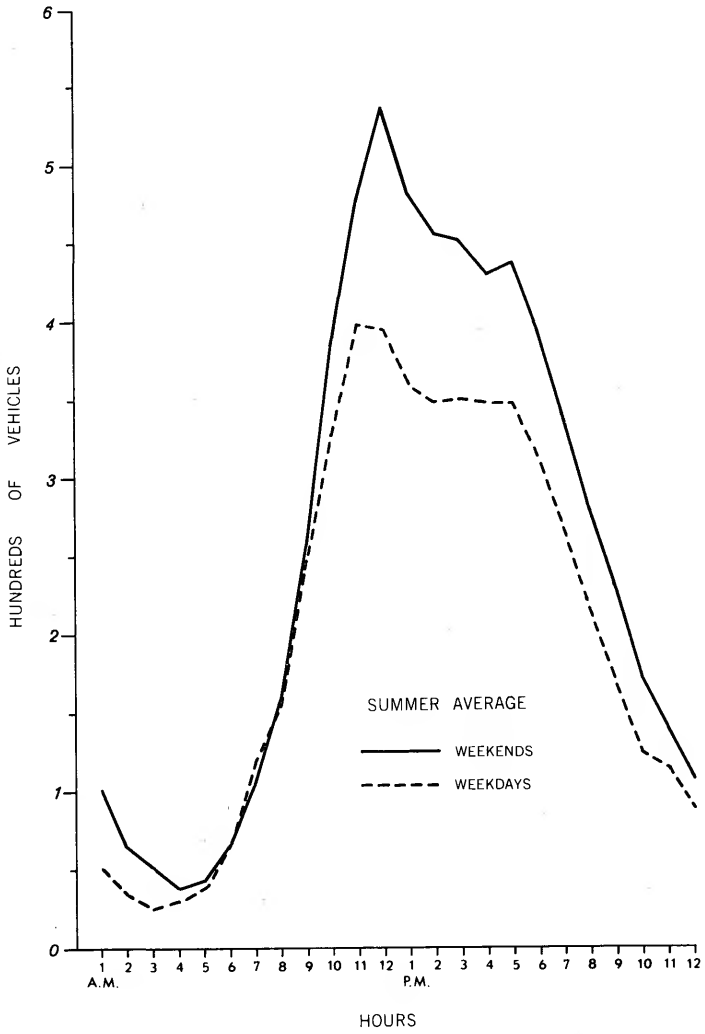
INTRAWEEK TRAFFIC VOLUME ON U.S. ROUTE 98
BETWEEN GRAYTON BEACH AND ST. ANDREWS PARKS



Source: State of Florida, Department of Transportation, traffic counter records, 1970.

Figure 34

DIURNAL TRAFFIC VOLUME ON U.S. ROUTE 98
BETWEEN GRAYTON BEACH AND ST. ANDREWS PARKS



Source: State of Florida, Department of Transportation, traffic counter records, summer, 1970.

Figure 35

APPENDIX III

SELECTED* CAMPER INTERVIEW SCHEDULE QUESTIONS

Where is your residence (state, county, city)?

When you left home was this campground your principal destination for this trip?
IF NO: What was (is) your principal destination?

How much time off do you have this nonworking period?

How many days will you be away from your residence on this trip?

How many days will you stay at this campground?
In this area?

How many days will you stay at other places?

What route did you take coming here?
Through what towns?
Which route numbers?

What were the most important factors that influenced your decision to come to this part of the Gulf coast?

Do you have any particular reasons for visiting this campground instead of another in the Panama City area?

What effect did advertising have on your selection of this campground?
Part of the Gulf coast?

Have you previously visited this part of the Gulf coast?
IF YES: About when did you first come (what year)?
How many times since?
Have you stayed in this campground before?
How many times?

Do you expect to return to this part of the Gulf coast?
IF YES: Will you camp?

Please imagine that some catastrophe in this area had prevented you and the public from visiting this part of the Gulf coast. Where might you have gone instead of to this area?

What were the main reasons you decided to come here instead of to any other areas or places you may have considered?

Why didn't you select an inland recreation area located on a lake or reservoir, perhaps with sand beaches?

Why didn't you select an inland place that offered some other scenic and recreation activity opportunities, like the mountains, a forest, or a large city?

For this trip would you have gone to one of the Louisiana, Mississippi or Alabama Gulf beaches if that area had not been partially destroyed during the last hurricane season?

What are your daily fees?

Would your willingness to visit this campground change if daily fees were increased by:

$ 1	$ 3	$ 5
$ 2	$ 4	$ 6

What would be your reaction to a situation in which all campgrounds (here and elsewhere in the nation) charged an overnight fee equal to local prices for your group at a good motel (e.g., Holiday Inn)?

When you select a recreation area for a vacation or an outing, do you consider the required travel in terms of miles, time, travel costs, or inconvenience?

How many hours of driving time did you travel from your residence to here?

Had you known before you left home that this part of the Gulf Coast would require an additional one hour of highway driving time from home would you have come anyway?

(Note: Hour increments were repeated until a negative response resulted.)

In general do you prefer to camp at private or public campgrounds?

What are the most important reasons for your preference of public (private) campgrounds?

What are your most important reasons for going camping?

Is your residence
1. within a city limits
2. in a subdivision just outside the city limits
3. in a small town near the city
4. in a rural area within a few minutes drive of a city
5. in a rural area at some distance from a city

What kind of work do you do now? (occupation)

What is the name of the last school you attended?
What was the last grade you completed in school?

Can you tell me your approximate <u>total family</u> income?
Head of the household?

---

*Unused and secondary evaluation questions have been omitted, in addition to write-in space and coding symbols.

APPENDIX IV

SURVEY SAMPLE DISTRIBUTION

Campground	Estimated Total Party Visits*	Interview Sample	Sample Percentage of Total
Pirate Cove	202	46	23
St. Andrews	4,465	138	3
Grayton Beach	1,117	131	12
Beach	1,628	48	3
Alligator Point	2,313	49	2
K. O. A.	2,067	42	2
Magnolia	1,900	60	3
Totals	13,692	514	3**

* June 6 through September 7, 1970

** Average

APPENDIX V

CAMPER RESIDENCE LOCATION

Location	Percentages* by Campground G	S	A	B	K	M	P	Total
Within city	61	56	42	46	49	46	52	53
City fringe subdivision	14	20	21	25	17	12	24	18
Satellite town	8	10	13	15	15	15	11	11
Rural	18	14	25	15	20	28	13	19

*Columns total greater than 100 per cent due to rounding.

APPENDIX VI

KLAUSNER'S RECREATION PARADIGM

Topographic Relation	Direction of Social Movement	Psychological Orientation	Illustration
Sedentary outer land	Centripetal	Active (1)	Beach surfers
		Passive (2)	Beachfront hotel guests
	Centrifugal	Active (3)	Family camping on the beach
		Passive (4)	Stereotyped South Sea Island paradise
Nomadic	Centripetal	Active (5)	Teenage western summer tour
		Passive (6)	Cruise ship
	Centrifugal	Active (7)	Hiking
		Passive (8)	Sightseeing
Sedentary inner land	Centripetal	Active (9)	Camping on public campgrounds
		Passive (10)	Country hotel guests
	Centrifugal	Active (11)	Lone cabin in woods
		Passive (12)	Private serviced lodge in mountains

Source: Samuel Z. Klausner, "A Paradigm of Social Recreation," Appendix A, Outdoor Recreation Research (Washington, D. C.: National Academy of Sciences, 1969), pp. 81-82.

APPENDIX VII

SUMMARY DATA: TRIP PERIOD AND MARGINAL DRIVING TIME

X_1 = Trip Period in days

X_2 = Driving Time in hours

Y = Maximum extra hours willing to drive

f = Frequency, one unless specified otherwise

X_1	X_2	Y(f)	X_1	X_2	Y(f)	X_1	X_2	Y(f)
2	1	2			2			12-2
		3			3		8	5
	2	1-3		8	5			9
		2-4		9	3		10	2
		3-3	4	2	2			3-2
		4			3		12	2
		5-2		5	2	6	2	3
	3	1			4			5
		2		6	3		3	3-3
		3			5			4
		5			12			8
	4	2		7	1		4	6
		4			3		5	5-2
	5	3			14		6	5
	7	3		8	2			12
3	2	2			3		7	2
		3		9	2			3-3
		4			3			5
	3	2			4			7
		3-3	5	2	2			10
		4			3		8	2
		6-2			4-2			3-3
		8		3	2			4
	4	2		5	3-2			7
		3			7-2		9	3
	5	3-2		6	3			4
	6	2			7			5
		3		7	2		10	3
		5			4		14	6
	7	1			9		16	7

APPENDIX VII (Continued)

X_1	X_2	Y(f)	X_1	X_2	Y(f)	X_1	X_2	Y(f)
	18	3		4	9			4-2
7	2	4		5	3			5
		9			4			12-2
	3	3		6	2			20
		10			4-2		9	1
	4	3			7-2			2
	5	3			13			3-2
		12		7	3-2			4
	6	1			4			10
		2-3			6			11
		3-3			12			12
		5-3		8	3		10	1-2
		6			4-2			2
		10			6			3-3
		15			7			6
	7	1			13		11	4
		3-3		9	5			5
		4-4			6		12	1
		6		10	3			5
		12-2			10		13	10
		18		11	3			12
	8	1			5		14	2
		2-2		12	3			12
		3-3			4		15	4
		5-3		16	3		24	1
		6		20	1	10	4	1
		8	9	2	3		6	2
		9-2		3	8		7	2
	9	3-3		4	4-2			3
		5			6			7
		10		5	4		8	14
	10	3-3			9		9	2
		4			17			4
		5		6	1			10
		12			3-4			12-2
	11	3			4-3			21
	12	5			5		10	3-2
		7			6			8
		12		7	3			9-2
	15	12			4-4			20
	16	1			5-3		12	3
		6			6-2			4
	20	4		8	2		14	3
8	2	15			3			4

APPENDIX VII (Continued)

X_1	X_2	Y(f)
		12
	16	3
11	8	4
	9	4-2
	12	5
	13	3
12	4	9
	8	2
	9	10
	10	6
	12	8
	15	3
	19	8
13	10	5
		9
	12	2
		27
	14	9
	15	12
		16
	20	6
	32	14
14	3	13
	6	4
		19
	7	3-2
		4
	8	2
		3
		9
		16
	10	3-2
		7
	11	1
		4
	12	1
		5-2
		8
		9
	13	5
	16	5
		10
	18	4
		5
		20
	19	5
	20	10
		20
	24	12
	25	16
	26	8
15	6	7
	7	3
	9	3
	10	1
		4
		12
	20	12
	22	12
16	5	4
	6	6
	7	4
		8
		15
		40
	8	3
		4
	9	1
	10	6
		16
		20
	12	1
		13
	13	20
	14	8
		9
	16	3
	18	4
	19	1
	20	2
		9
		12
17	7	3-2
	8	4
	9	27
	24	24
18	17	4
20	6	5
	10	6
	14	6
	15	8
	20	9
21	3	3
	12	36
	18	7
	20	6
		12
	22	1

BIOGRAPHICAL SKETCH

Dennis R. Crowe was born July 6, 1943, at Paoli, Indiana. In June, 1961, he was graduated from F. J. Reitz High School. In June, 1964, he received the degree of Bachelor of Science with a major in Earth Science from Indiana State University. In 1965 he became a graduate assistant in the Department of Geography at Indiana State University. He received the Master of Arts degree from that University in 1966. He joined the teaching staff of Indiana State University in 1966. From September, 1968, until the present time, Mr. Crowe has pursued his work toward the degree of Doctor of Philosophy in the Department of Geography of the University of Florida.

Dennis R. Crowe is married to the former Lynne V. Gilmore and is the father of Kathleen and Dennis. He is a member of the Association of American Geographers and Gamma Theta Upsilon among other professional organizations.

I certify that I have read this study and that in my opinion it conforms to acceptable standards of scholarly presentation and is fully adequate, in scope and quality, as a dissertation for the degree of Doctor of Philosophy.

James R. Anderson

James R. Anderson, Chairman
Professor of Geography

I certify that I have read this study and that in my opinion it conforms to acceptable standards of scholarly presentation and is fully adequate, in scope and quality, as a dissertation for the degree of Doctor of Philosophy.

Clark I. Cross

Clark I. Cross, Associate Professor
of Geography and Physical Sciences

I certify that I have read this study and that in my opinion it conforms to acceptable standards of scholarly presentation and is fully adequate, in scope and quality, as a dissertation for the degree of Doctor of Philosophy.

Kenneth R. Swinford

Kenneth R. Swinford
Professor of Forestry

This dissertation was submitted to the Department of Geography in the College of Arts and Sciences and to the Graduate Council, and was accepted as partial fulfillment of the requirements for the degree of Doctor of Philosophy.

June, 1972

Dean, Graduate School